SONY

3-753-884-23 (3)

Video Cassette Recorder

Operating Instructions

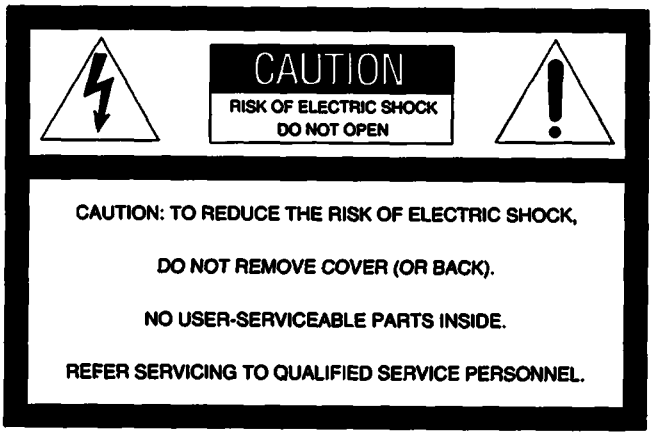
SLV-595HF/696HF

VHS Hi-Fi

© 1992 by Sony Corporation

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Owner's Record

The model number is located at the rear and front of the unit and the serial number on the top. Record the serial number in the space provided below. Refer to these numbers whenever you call upon your Sony service dealer regarding this product.

Model No. SLV-595HF Serial No._____
Model No. SLV-696HF Serial No._____

For the Customers in the U.S.A.

INFORMATION
This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient the receiving antenna.
Relocate the equipment with respect to the receiver.
Move the equipment away from the receiver.
Plug the equipment into a different outlet so that equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:
"How to Identify and Resolve Radio-TV Interference Problems."
This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

Caution

TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS POLARIZED AC PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

NOTE TO CATV SYSTEM INSTALLERS IN THE U.S.A.:
This reminder is provided to call the cable TV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system in the building, as close to the point of cable entry as practical.

Table of Contents

Preliminaries

Warning 2
Owner's Record 2
Precautions 4
Introduction 5
Using This Manual 5
Overview 5

Preparation

Hookups and Getting Started 6
Audio/Video A/V Hookup 7
Antenna Hookup 8
Simple Cable Hookup 10
Alternate Cable Hookup 12
Advanced Cable Hookup 14
Preparing the Remote Commander 17
Inserting Batteries 17
Setting the Command Mode 17
Manufacturers and their Code Numbers 18
Setting the Manufacturer's Code Number 19
Setting the Time and Date 20
Example of Time and Date Setting 20
Presetting the Active Channels 22
Presetting All Receivable Channels Automatically 22
Presetting Desired Channels or
Disabling Unwanted Channels 23
Fine-tuning 24
Cable TV Channel Assignment 25
Using The SET UP Menu 26
Menu Choices 27

Basic Operations

Playback 28
Inserting a Video Cassette 28
Playback 29
The Data Screen 30
Indexing Tape Contents 30
Playing Back Externally-Recorded Tapes 31
Selecting the Monitor Sound 31
Listening to Mixed Hi-Fi and Normal Track Sound 32
Recording TV Programs 33
Recording TV Programs 33
Pausing 34
Recording with the TV Off 35
Watching One TV Program While Recording Another 35
Recording Multi-channel TV Sound Broadcasts 35
Timer Recording 36
Setting the Timer 36
Overlapping Timer Recordings 39
Checking the Timer Settings 40
Changing or Cancelling the Timer Settings 41
Using the VCR Before Timer Recording Starts 42
Introducing VCR Plus+ 43
VCR Plus+ Setup Instructions 43
Recording Programs Using VCR Plus+ 45

Advanced Operations

Variable Speed Playback 47
Variable Speed Playback 47
Still Picture 47
Picture Search 47
Locked Picture Search 48
Skip Playback 48
Slow Motion Playback 48
Frame-by-Frame Picture 48
Picture Adjustment During Variable Speed Playback 48
Index Function 49
Marking Index Signals 49
Playing Back from the Index Point - Index Scan 50
Locating an Index - Index Search 51
Erasing Index Signals 52
Quick-Timer Recording 53
Quick-Timer Recording 53
Buttons Operable During Quick Timer Recording 54
Editing 55
Editing from Another VCR 55
Editing onto Another VCR 56
Synchronized Editing onto Another VCR 57
Insert Editing 58

Additional Information

General Setup Information 60
Setting the RF Unit 60
Attaching the F-type connector 61
Attaching the External Antenna Connector 62
Attaching the EAC66 UV Band Separator/Mixer 62
Identifying the Parts and Controls 63
Front Panel 63
Inside of Front Panel 64
Rear Panel 65
Display Window Indicators 66
Remote Commander 67
Troubleshooting 69
On-Screen Help Messages 71
Specifications 72
Index 73

Precautions

Safety

- Operate the unit only on 120 V AC, 60 Hz.
- If anything falls into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- One blade of the plug is wider than the other for the purposes of safety and will fit into the power outlet only one way. If you are unable to insert the plug fully into the outlet, contact your dealer.
- Unplug the unit from the wall outlet if you do not intend to use it for an extended period of time. To disconnect the cord, pull it out by the plug, never by the cord.

Installation

- Allow adequate air circulation to prevent internal heat buildup.
- Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation slots.
- Do not install the unit near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- Do not install the unit in an inclined position. It is designed to be operated in a horizontal position only.
- Keep the unit and cassettes away from equipment with strong magnets, such as microwave ovens or large loudspeakers.
- Do not place heavy objects on the unit.

Operation

- When the unit is not in use, turn the power off to conserve energy and to extend its life.
- Remove and store video cassettes after recording or playback.

Cleaning

- Clean the cabinet, panel and controls with a dry, soft cloth, or a soft cloth slightly moistened with a mild detergent solution.
- Do not use any type of solvent, such as alcohol or benzine.

Introduction

How to Use This Manual

This manual includes information on two video cassette recorder (VCR) models, the SLV-595HF and the SLV-696HF. The model name is indicated on the rear and front panels. Any difference between the two models is clearly indicated in the manual, for example, "For SLV-595HF only".
This manual is divided into five chapters.
The chapters and their contents are as follows:

Preliminaries	**(page 2)**
Preparation	**(page 6)**
Basic Operations	**(page 28)**
Advanced Operations	**(page 47)**
Additional Information	**(page 60)**

If you are using your VCR for the first time, start from the section **"Hookups and Getting Started"** (page 6). This section explains how to hookup, set up, and operate your VCR so that you can start enjoying it right away.
For information about the VCR's basic operations, such as Playback (page 28), Recording TV Programs (page 33), or Timer Recording (page 36), see **Basic Operations**.
If you are already familiar with the basic operations, see **Advanced Operations**.
If you have any problems in operating the VCR, refer to Troubleshooting. If your VCR is in need of repair, contact your nearest Sony Service Center facility.

Conventions of this manual

This manual explains operations using the VCR Remote Commander. However, the buttons on the VCR with the same name or mark as those on the Remote Commander function exactly the same as those on the Remote Commander.

When you are reading through the manual, remember:

- Buttons and switches are shown in uppercase letters.
  Example: Press ▷ PLAY.
- Numbers in the illustrations correspond to numbers in the text.
- ⟵ indicates signal flow.
- Notes and cautions are enclosed in boxes.

Unpacking

Check that you have received the following accessories:

- Remote Commander RMT-V102D (for SLV-595HF) or RMT-V112A (for SLV-696HF)
- Size AA (R6) batteries (2)
- External antenna connector (1)
- 75-ohm coaxial cable with F-type connectors (1)
- AC power cord (1)
- Audio/video connecting cable (3 phono to 3 phono) (1)

Overview

Editing

- **DUAL MODE SHUTTLE ring**
  Allows quick access to the desired scene and playback in various speeds in forward and reverse directions.
- **CONTROL S INPUT jack**
  Allows remote control of this VCR by other Sony video equipment with a CONTROL S OUTPUT jack.
- **Input connectors on the front panel**
  Allows easy connection to a video camera recorder.
- **Insert editing (for SLV-696HF only)**
  Allows easy superimposition of pictures and/or sound onto a prerecorded cassette.

On-screen display

- **Data screen**
  Tape counter, cassette speed, operation mode, and remaining cassette length can be displayed on the TV screen.
- **TIMER SET/CHECK display**
  Timer recording settings can be set and checked by referring to the TV screen.
- **ON SCREEN HELP message**
  The VCR gives a message on screen with a beep tone to warn that you have attempted an incorrect operation.

Functions

- **VCR Plus+ * system**
  Allows you to quickly and easily record up to eight preset programs.
- **Auto tracking function**
  Automatically adjusts the tracking condition for optimum picture quality.
- **Timer recordings of eight programs in a month**
  Recording of up to eight TV programs can be preset up to one month in advance.
- **Index function**
  The beginning of a desired scene can be located easily with the index search function.
- **Multi-brand TV control Remote Commander (SLV-696HF only)**
  The Remote Commander can control other manufacturer's TV sets.
- **Auto head cleaner**
  Cleans the video heads each time a cassette is inserted or ejected.

High-quality picture

- **High-quality picture**
  Your Sony VCR provides sharp, finely detailed pictures through High Quality (HQ) picture technology. A VCR with the HQ mark incorporates VHS high-quality picture technology and is compatible with any VCR bearing the VHS mark.

* VCR Plus+ and PlusCode are trademarks of Gemstar Development Corp.

Hookups and Getting Started

Before you can use your VCR for the first time, you need to connect it to your TV and set it up to receive programs for viewing and recording. This section explains how to hook up, set up, and operate your VCR so that you can start enjoying it right away. There are, however, many types of TVs available and many different ways in which your TV can be hooked up. As a result, this manual describes several ways your VCR can be connected.

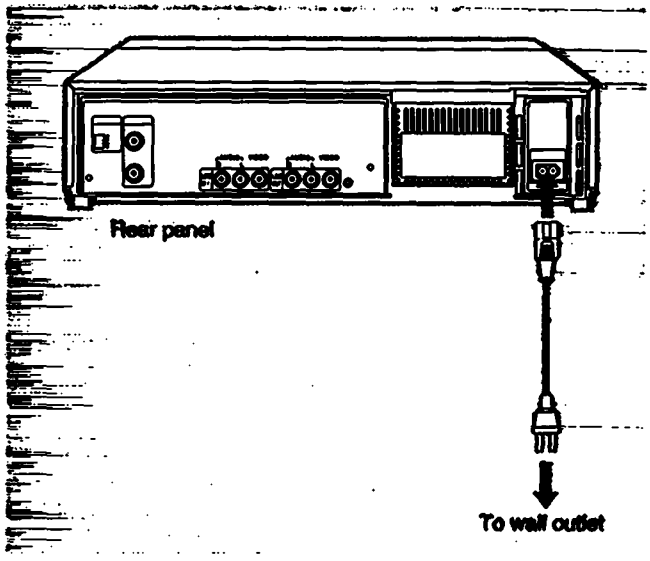
To hook up your VCR so that it works best for you, first scan through this section to find the diagram that best illustrates the way your TV is currently connected (antenna or cable/ cable box). Then use the accompanying diagrams and procedures to complete your VCR's connections.

After you've completed the connections, follow the instructions for setup, including VCR Plus+ setup. (During setup, if you need more details of the procedures described, page numbers are provided where you can find complete, step-by-step instructions.)

After you've completed the setup, you're ready to use your VCR. Follow the instructions provided in "To Watch the TV", "To Watch the VCR", and "To Record A Program" for your specific hookup.
(Again, if you need step-by-step instructions, page numbers are provided where you can find this information.)

Before making the connections, check the following points:

- Turn off the power to the VCR and TV.
- Do not connect the AC power cords until all of the connections are completed.



- Make connections firmly. Loose connections may cause picture distortion.
- If your TV doesn't match any of the examples provided, consult your nearest Sony dealer or qualified technician.

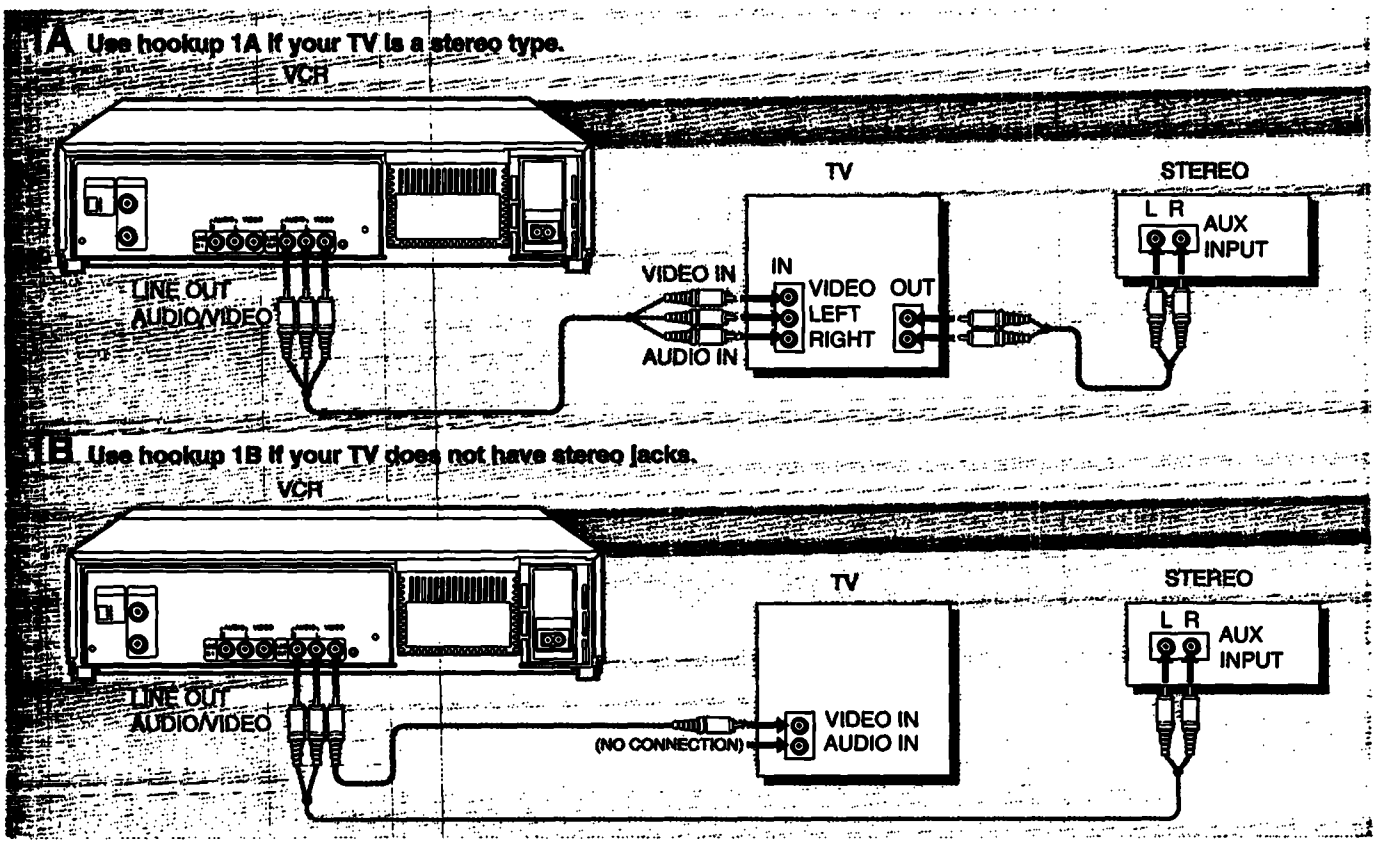
Caution
Connections between the VCR VHF/UHF OUT connector and the antenna terminals of a TV receiver should be made only as shown in the instructions. Failure to do so may result in operation that violates the regulations of the Federal Communications Commission regarding the use and operation of RF devices. Never connect the output of the recorder to an antenna or make simultaneous (parallel) antenna and recorder connections at the antenna terminals of your receiver.

Hookup 1

Audio/Video (A/V) Hookup

If your TV has audio/video (A/V) input jacks, you will get a better picture and sound if you hook up your VCR using these connections. In addition, for a true "home theater" experience, you should connect the audio outputs of your VCR or TV to your stereo system.
If your TV doesn't have A/V inputs, see the following pages for antenna or cable hookup.

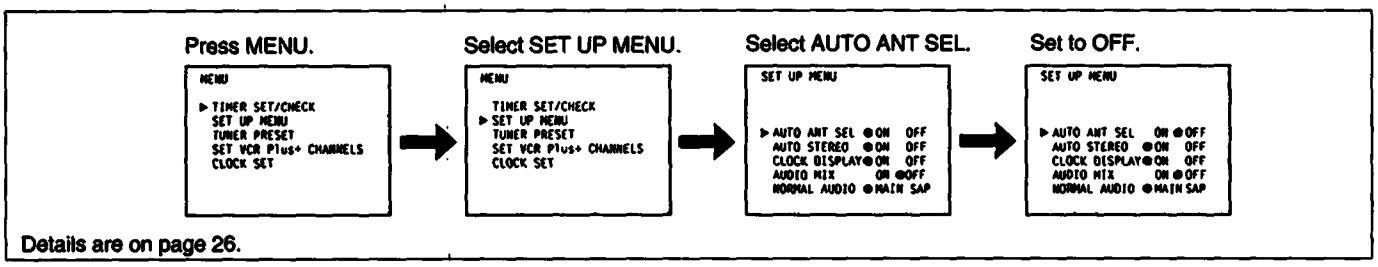
If you only wish to play back pictures and movies, you're finished after you've made these connections. If you want to record off-air or off your cable TV system, please do the A/V hookup on this page first, then proceed to the following pages for antenna or cable hookup.



After you've hooked up your TV using the A/V connections, use the following procedure to set up and use the VCR with your TV.

A/V Setup & Operation

Set AUTO ANT SEL to OFF.



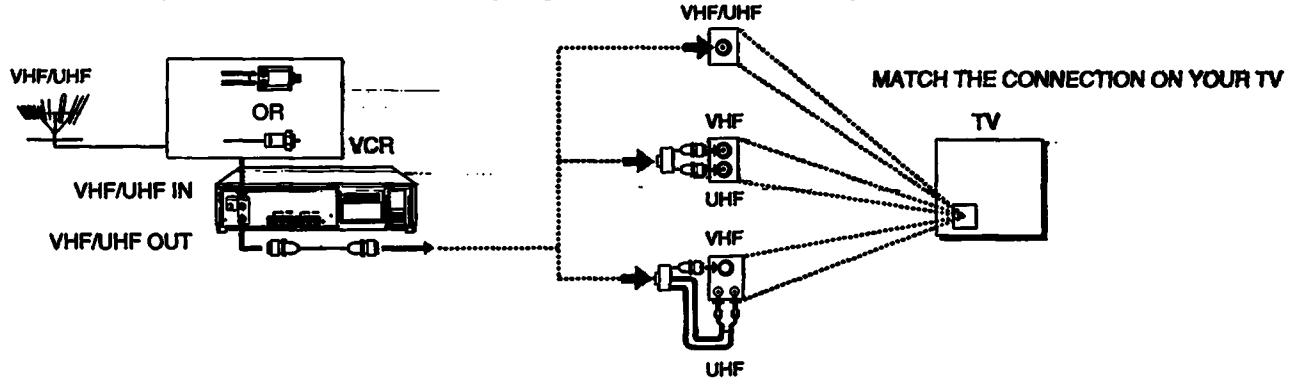
Details are on page 26.

Hookup 2

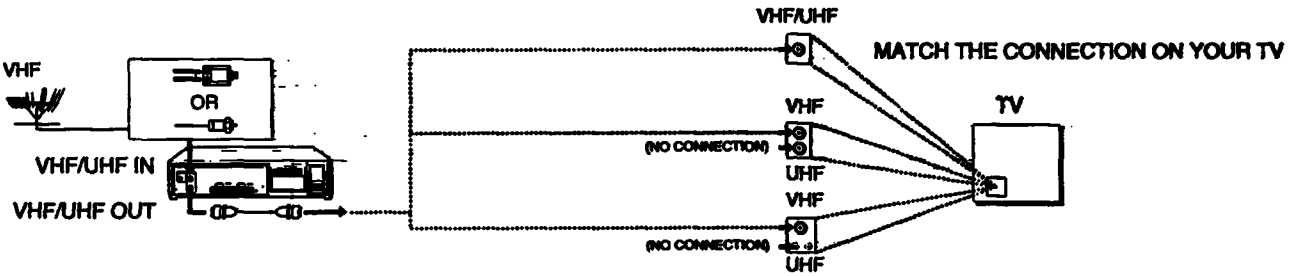
Antenna Hookup

Make the following connections if you're using an antenna (not a cable TV).

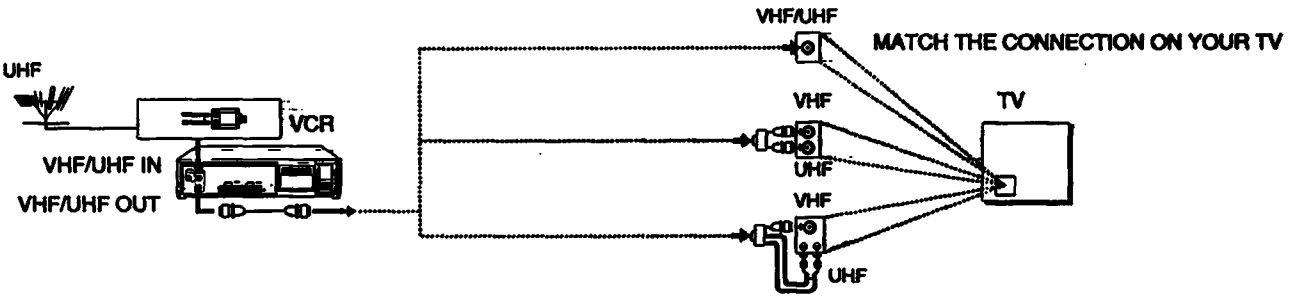
2A Use hookup 2A for a VHF/UHF antenna (you get Ch 2-13 and Ch 14 or higher).



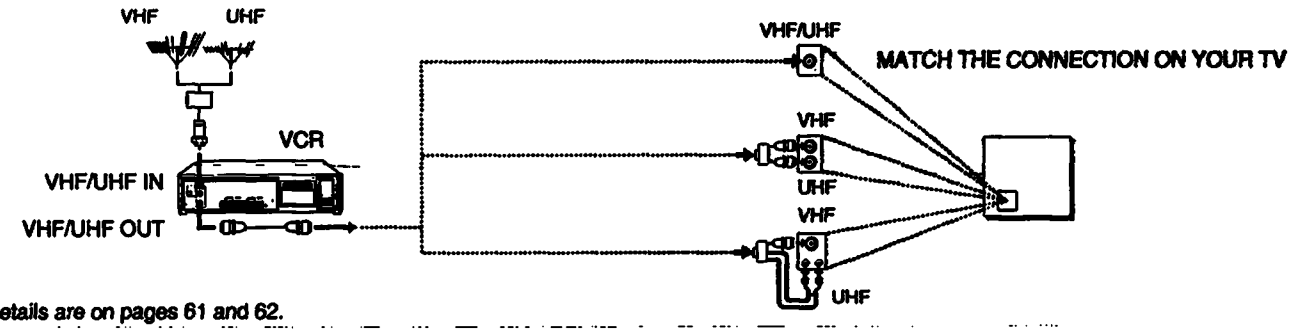
2B Use hookup 2B for VHF only (you get Ch 2-13 only).



2C Use hookup 2C for UHF only (you get Ch 14 or higher).



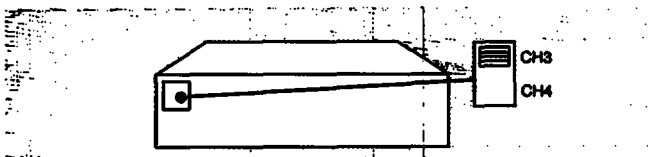
2D Use hookup 2D if you're using separate VHF and UHF antennas.



Details are on pages 61 and 62.

VCR Setup (Antenna)

1 Set the RF Unit on the VCR's rear panel to CH 3 or CH 4.
If you made A/V connections, skip this step.

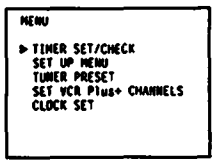


Set to whichever channel is not used in your area.
If both are used, pick either channel.

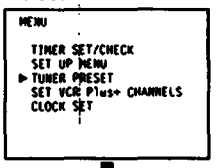
Details are on page 60.

2 Set NORM/CATV to NORM.

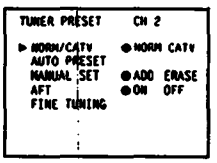
Press MENU.



Select TUNER PRESET.



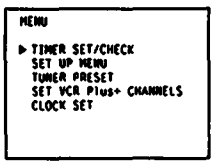
Set to NORM.



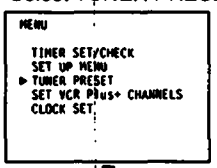
Details are on page 22.

3 Preprogram the channels into the VCR.

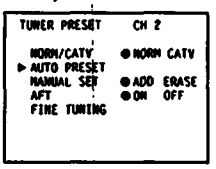
Press MENU.



Select TUNER PRESET.



Select AUTO PRESET, then press EXECUTE.



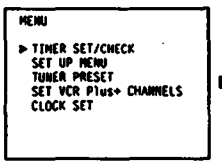
Details are on pages 22 and 23.

VCR Plus+ Channel Setup (Antenna)

1 Find the VCR Plus+ Channel Listing in your program guide.
For details on the VCR Plus+ Channel, see page 43.

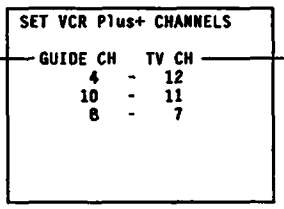
2 If the channels in the program guide are different from the channels that you actually use on your TV, set the channels that are different as follows:

Press MENU.



Select SET VCR Plus+ CHANNELS.

Set the appropriate guide channels and TV channels for your area.



Program listing guide channel

Your actual TV channel

Details are on page 44.

To Watch the TV

1 Turn your VCR off, or press the VCR's TV/VTR button until the VTR indicator in the display window goes off.
2 Tune the TV normally.

To Watch the VCR

1 Tune the TV to CH 3 or CH 4, whichever you set on the back of the VCR. (If you made the A/V connections on page 7, set your TV to the A/V input instead.)
2 Insert a cassette and press ▷ PLAY. If there's no picture on your TV, press the VCR's TV/VTR button until the VTR indicator comes on in the VCR's display window.

Details are on page 28.

To Record A Program

1 Press VCR Plus+ on the Remote Commander.
2 Enter the program's PlusCode number.
3 Press ONCE, DAILY, or WEEKLY on the Remote Commander.
4 Insert a blank cassette.
5 Press TIMER REC on the Remote Commander.

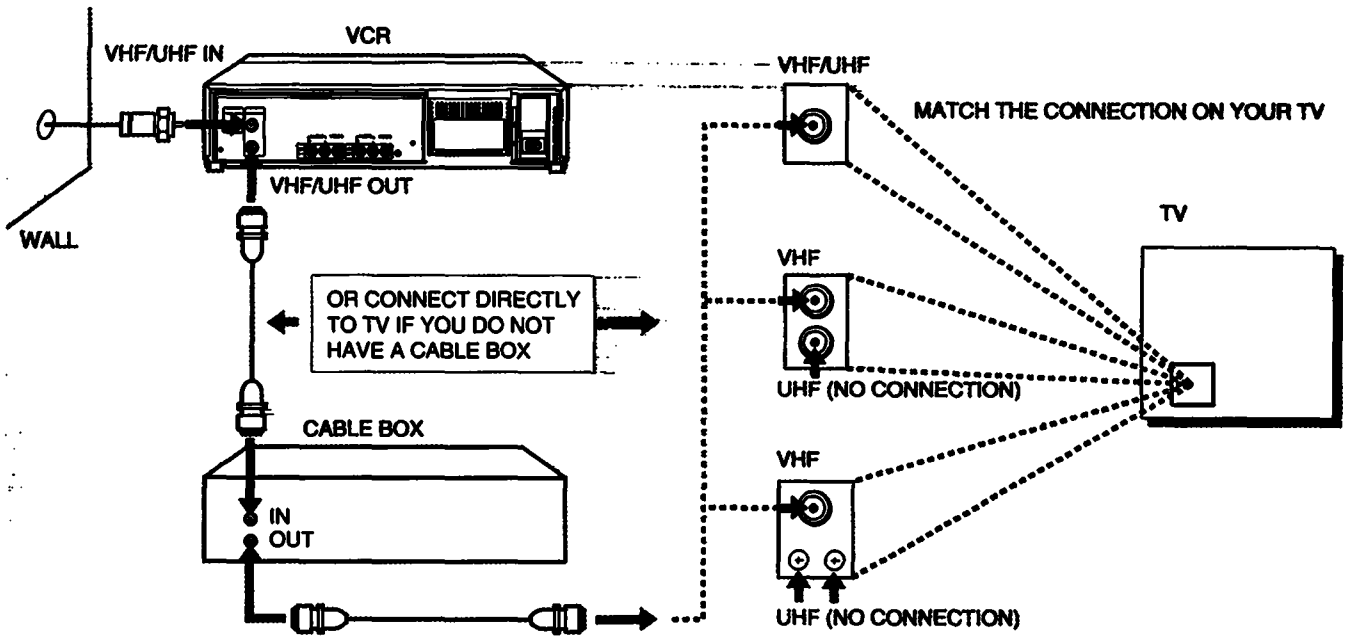
Details are on page 45.

Hookup 3

Simple Cable Hookup

Recommended Use:
Since this is the simplest hookup, and allows the most effective use of your VCR's VCR Plus+ timer recording feature, we recommend that you try this hookup first. If you cannot record the channels you want, you'll need to change your hookup to one of the choices on the following pages, or contact your cable company for assistance.

Background
This VCR can record virtually any unscrambled cable channel. Some cable systems "scramble" specific channels, usually premium or pay-per-view channels. You will not be able to record scrambled channels with this hookup.



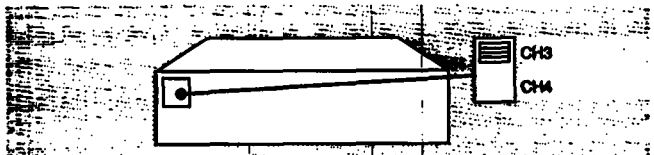
What You Can and Can't Do With This Hookup

What You Can Do
- Record any unscrambled channel directly, without using a cable box.

What You Can't Do
- Record scrambled channels that require a cable box.

VCR Setup (Simple Cable)

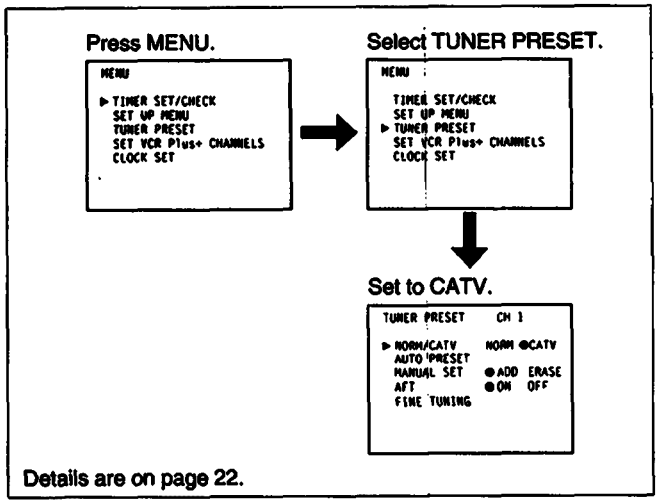
1 Set the RF Unit on the VCR's rear panel to CH 3 or CH 4.
If you made A/V connections, skip this step.



Set to whichever channel is not used in your area.
If both are used, pick either channel.

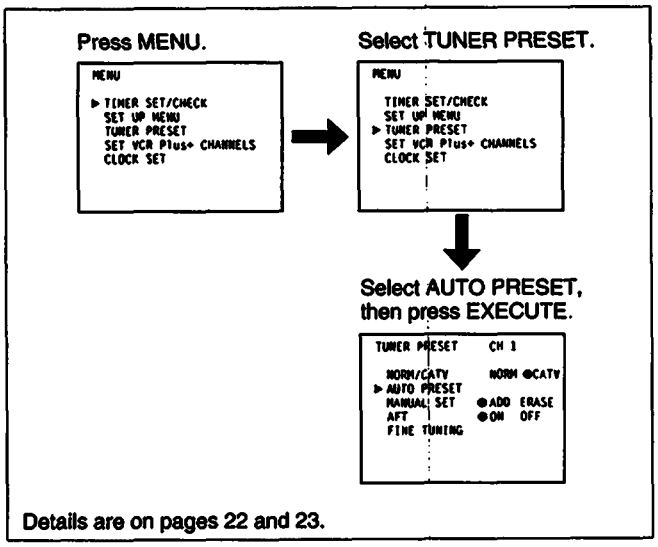
Details are on page 60.

2 Set NORM/CATV to CATV.



Details are on page 22.

3 Preprogram the channels into the VCR.

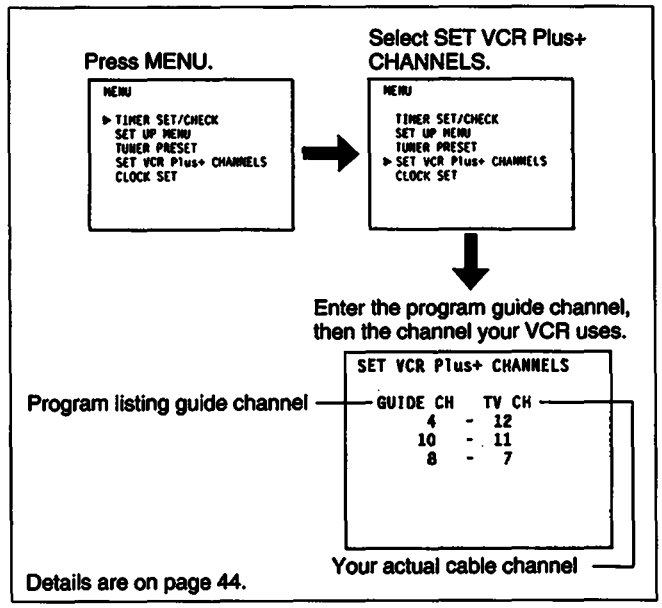


Details are on pages 22 and 23.

VCR Plus+ Channel Setup (Simple Cable)

1 Find the VCR Plus+ Channel Listing in your program guide. For details, see page 43.

2 If the channels in the program guide are different from the channels that you actually use on your TV, set the channels that are different as follows:



Details are on page 44.

To Watch TV

1 Turn your VCR off, or press the VCR's TV/VTR button until the VTR indicator in the display window goes off.
2 Select the channel with your cable box (if you have one), or directly tune with your TV (if you don't).

To Watch the VCR

1a If you didn't use the A/V input:
- Turn ON the cable box.
- Select CH 3 or CH 4 on the **cable box** (whichever you set on the back of the VCR).
- Select the output channel of the cable box (usually 2,3 or 4) on your TV.

1b If you made the A/V connections on page 7:
Set your TV to the A/V input.
2 Insert a cassette and press ▷ PLAY.

Details are on page 28.

To Record A Program

1 Press VCR Plus+ on the Remote Commander.
2 Enter the program's PlusCode number.
3 Press ONCE, DAILY, or WEEKLY on the Remote Commander.
4 Insert a blank cassette.
5 Press TIMER REC on the Remote Commander.

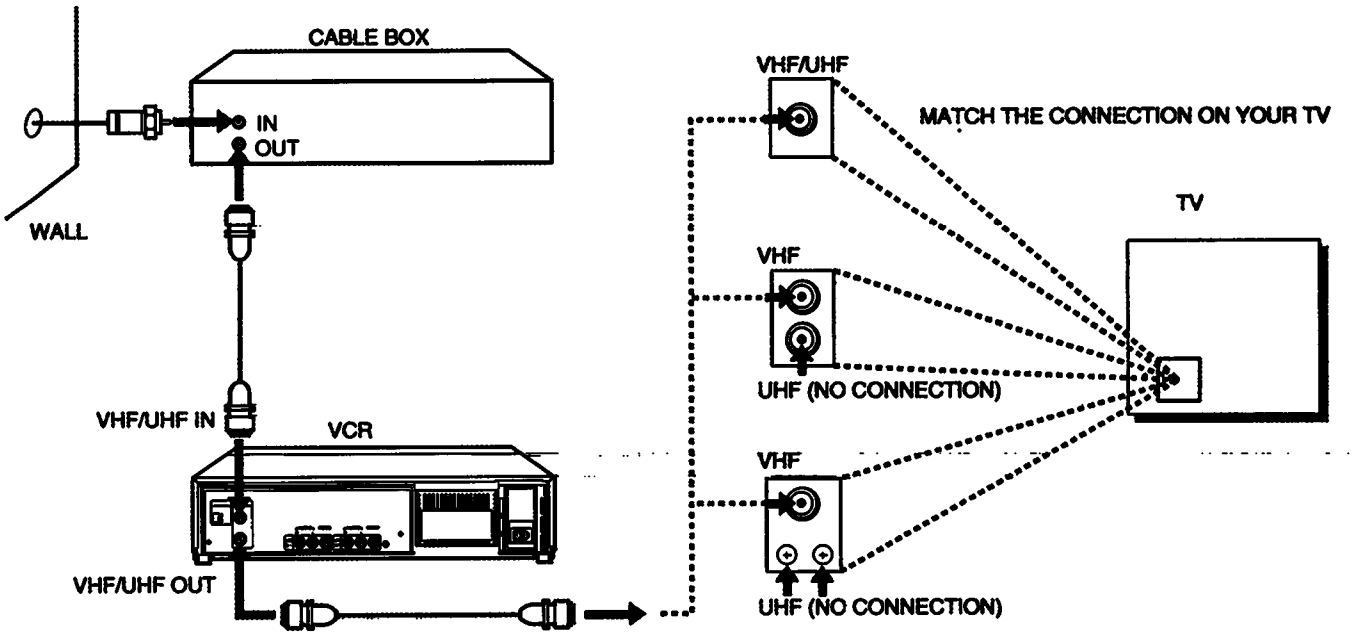
Details are on page 45.

Hookup 4

Alternate Cable Hookup

Recommended Use:
This hookup will allow you to record either scrambled or unscrambled channels, however, you will have to set the channel on the cable box for each program you want to record. If your cable system scrambles all or most channels, you **must** use this hookup. If your cable system only scrambles a few channels, you may prefer **Hookup 3** or **5** (on pages 10 and 14, respectively). Please note that **Hookup 3** will allow the easiest programming with VCR Plus+, but will not allow you to record scrambled channels.
Hookup 5 will allow you to record either scrambled or unscrambled channels, but will require that you purchase a few extra parts at your local electronics store.

Background
This VCR can record virtually any unscrambled cable channel. Some cable systems "scramble" specific channels, usually premium or pay-per-view channels. Although this hookup will also allow you to record these scrambled channels, you must use the cable box rather than the VCR to select channels.



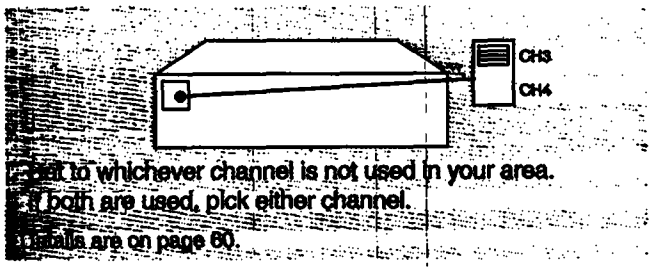
What You Can and Can't Do With This Hookup

What You Can Do
- Record any channel by selecting the channel on the cable box.

What You Can't Do
- Record with the cable box turned off.
- Record by selecting channels directly from the VCR.
- Record one channel while watching another channel.

VCR Setup (Alternate Cable)

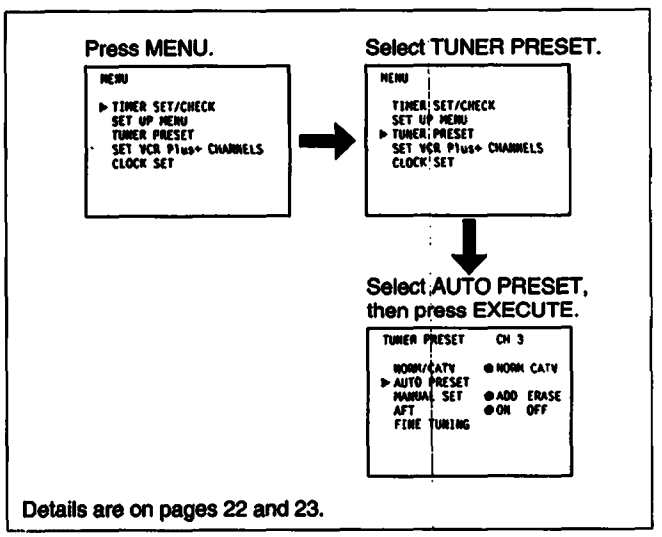
1 Set the RF Unit on the VCR's rear panel to CH 3 or CH 4. If you made A/V connections, skip this step.



Details are on page 60.

2 Switch on your cable box.

3 Preprogram the channels into the VCR.

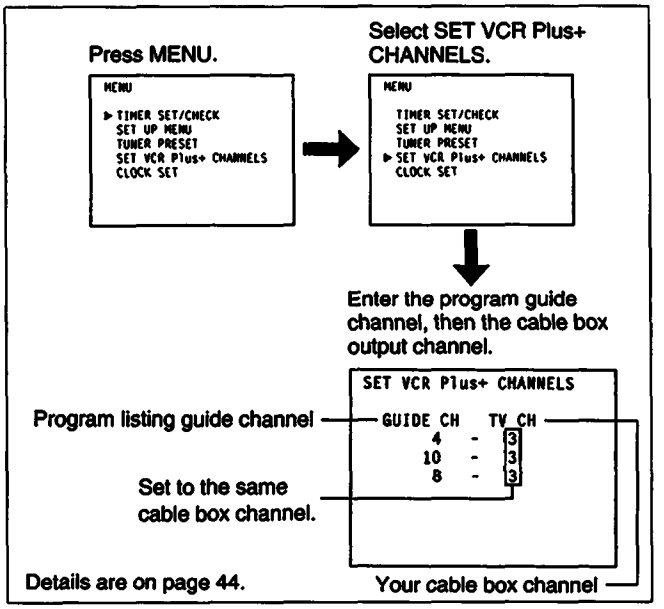


Details are on pages 22 and 23.

VCR Plus+ Channel Setup (Alternate Cable)

1 Find the VCR Plus+ Channel Listing in your program guide. For details, see page 43.

2 For all channels that you want to record, set each channel to the channel that your cable box uses for its output (usually 2, 3, or 4), as follows:



Details are on page 44.

To Watch the TV

1 Turn your VCR off, or press the VCR's TV/VTR button until the VTR indicator in the display window goes off.
2 Switch on your cable box.
3 Tune the TV to the cable box output channel (usually 2, 3, or 4).
4 Select the channel that you want to watch with your cable box.

To Watch the VCR

1 Tune the TV to CH 3 or CH 4, (or to A/V input if you made A/V connections.)
2 Insert a cassette and press ▷ PLAY.

Details are on page 28.

To Record A Program

1 Switch on the cable box.
2 Select a channel you wish to record on the cable box.
3 Press VCR Plus+ on the Remote Commander.
4 Enter the program's PlusCode number.
5 Press ONCE, DAILY, or WEEKLY on the Remote Commander.
6 Insert a blank cassette.
7 Press TIMER REC on the Remote Commander.
8 Leave the cable box ON.

Details are on page 45.

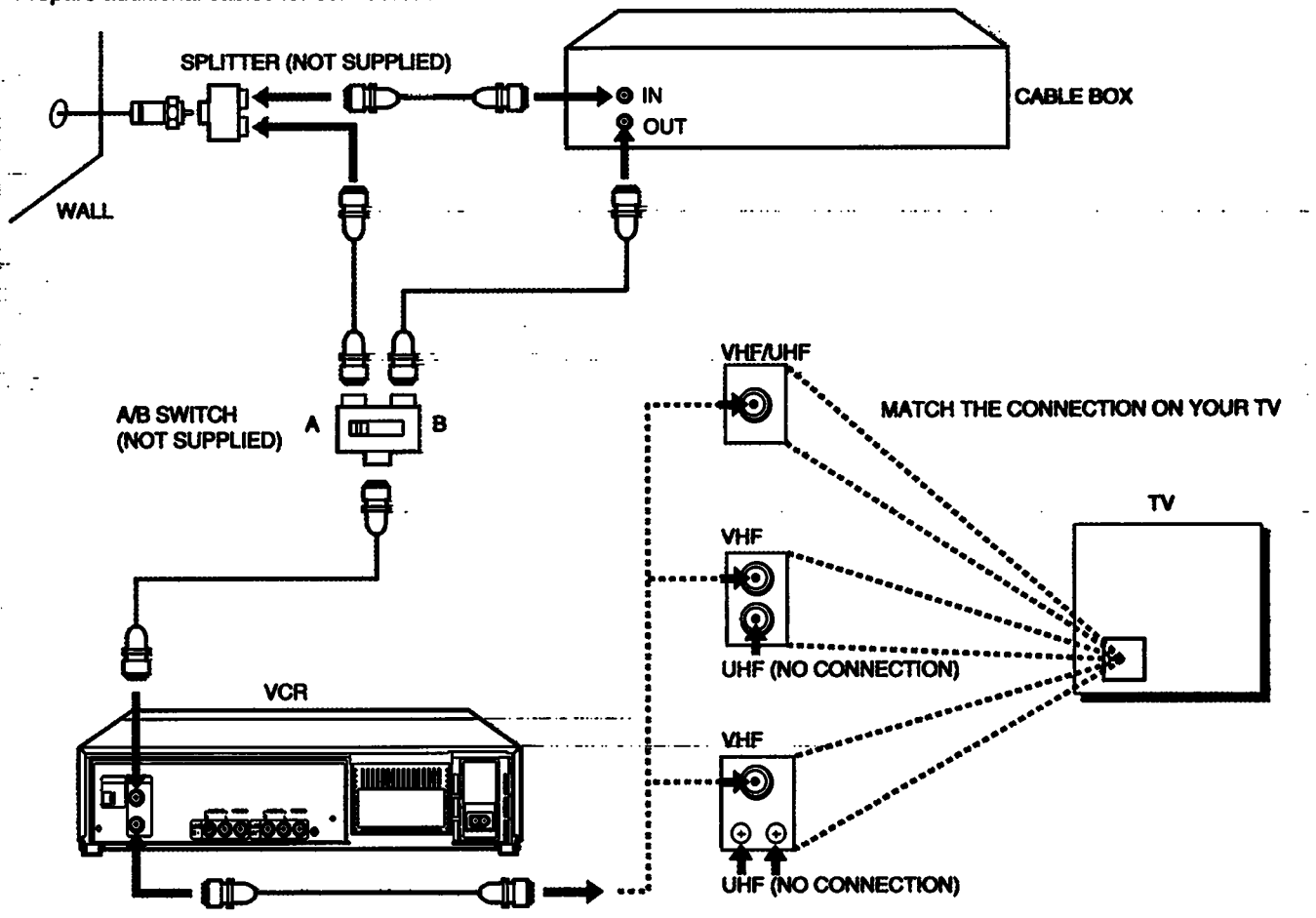
Hookup 5

Advanced Cable Hookup

Recommended Use:
By using the A/B switch, this hookup allows you to record most channels directly from the VCR (position "A"). You only use position "B" and the cable box if you want to record a "scrambled" channel. This gives you the most convenient operation of VCR Plus+ and the VCR's timer.

Background
This VCR can record virtually any unscrambled cable channel. Some cable systems "scramble" specific channels, usually premium or pay-per-view channels. This hookup will allow you to record unscrambled channels by selecting "A" on the A/B switch, and tuning the channel directly on your VCR. To record "scrambled" channels, select "B" on the A/B switch, and select the channel using the cable box. If your cable system scrambles all, or most channels, you must use the alternate cable hookup **(Hookup 4)** on page 12.

- Only one cable is supplied with your VCR. Prepare additional cables for connection.



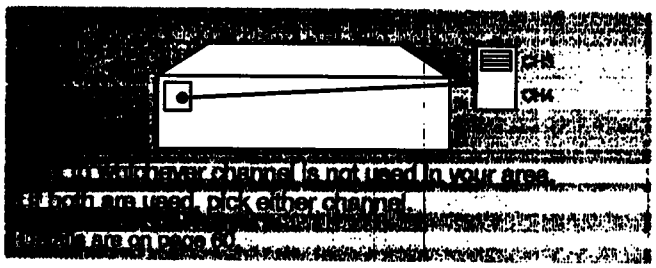
What You Can and Can't Do With This Hookup

What You Can Do
- Record unscrambled channels directly with the A/B switch in the 'A' position.
- Record scrambled channels through the cable box with the A/B switch in the 'B' position.

What You Can't Do
- Record scrambled channels directly without the cable box.
- Watch a different channel while you are recording a scrambled channel.
- Record scrambled channels through the cable box with the A/B switch in the 'A' position.

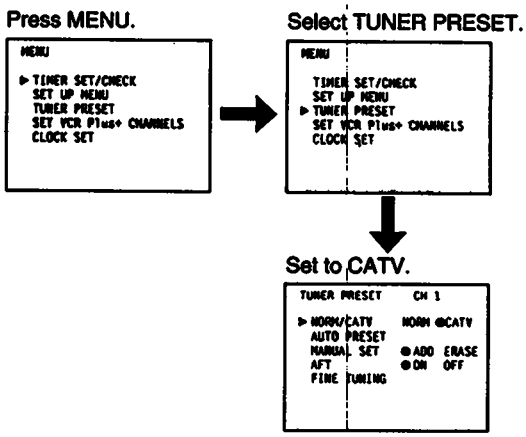
VCR Setup (Advanced Cable)

1 Set the RF Unit on the VCR's rear panel to CH 3 or CH 4. If you made A/V connections, skip this step.



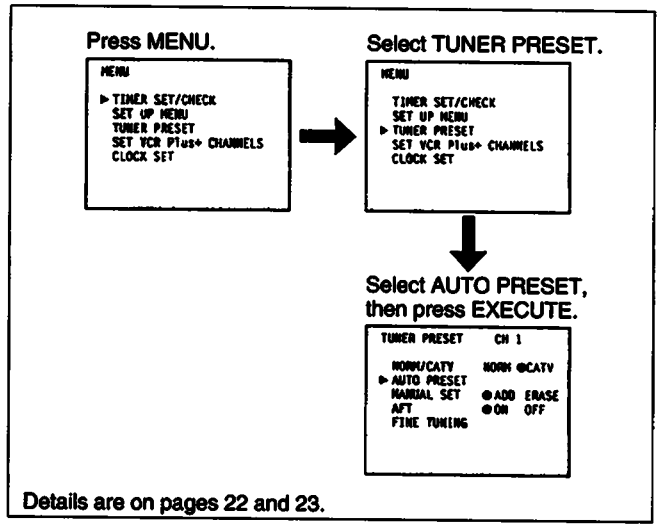
2 Set the A/B switch to 'A'.

3 Set NORM/CATV to CATV.



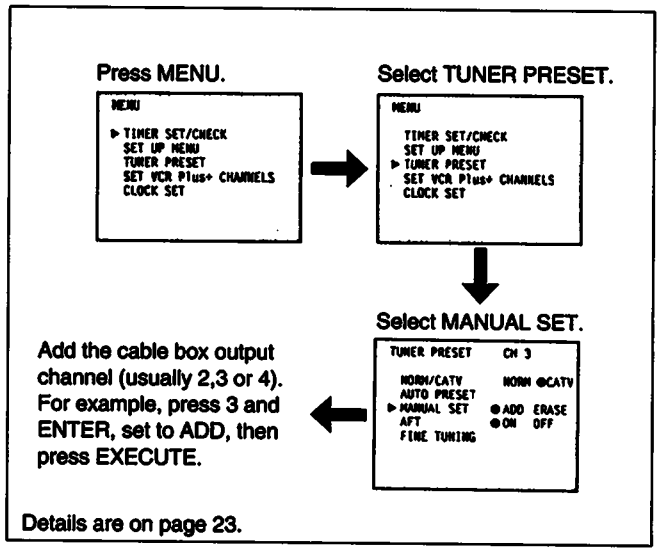
Details are on page 22.

4 Preprogram the channels into the VCR.



Details are on pages 22 and 23.

5 Add the cable box output channel (usually 2, 3, or 4).

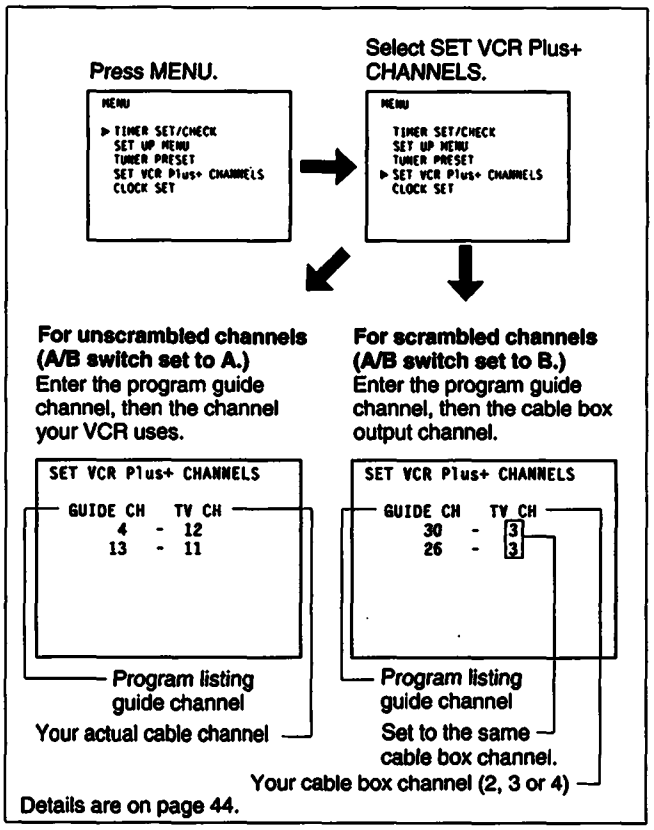


Details are on page 23.

VCR Plus+ Channel Setup (Advanced Cable)

1 Find the VCR Plus+ Channel Listing in your program guide. For details, see page 43.

2 Set unscrambled and scrambled channels as shown below.


Press MENU.
Select SET VCR Plus+ CHANNELS.
MENU
▶ TIMER SET/CHECK
SET UP MENU
TUNER PRESET
SET VCR Plus+ CHANNELS
CLOCK SET
MENU
TIMER SET/CHECK
SET UP MENU
TUNER PRESET
▶ SET VCR Plus+ CHANNELS
CLOCK SET
For unscrambled channels (A/B switch set to A.)
Enter the program guide channel, then the channel your VCR uses.
For scrambled channels (A/B switch set to B.)
Enter the program guide channel, then the cable box output channel.
SET VCR Plus+ CHANNELS
GUIDE CH TV CH
4 - 12
13 - 11
SET VCR Plus+ CHANNELS
GUIDE CH TV CH
30 - 3
26 - 3
Program listing guide channel
Your actual cable channel
Program listing guide channel
Set to the same cable box channel.
Your cable box channel (2, 3 or 4)

Details are on page 44.

To Watch the TV

1 Turn your VCR off, or press the VCR's TV/VTR button until the VTR indicator in the display window goes off.
2 Set A/B switch to B.
3 Switch on your cable box.
4 Tune the TV to the cable box output channel (usually 2, 3, or 4).
5 Select the channel you want to watch with your cable box.
6 After watching the TV, please remember to return the A/B switch and cable box channel to the correct position.

To Watch the VCR

1 Tune the TV to CH 3 or CH 4, (or to A/V input if you made A/V connections.)
2 Insert a cassette and press ▷ PLAY.

Details are on page 28.

To Record A Program

● Unscrambled Channels

1 Switch the A/B switch to 'A'.
2 Press VCR Plus+ on the Remote Commander.
3 Enter the program's PlusCode number.
4 Press ONCE, DAILY, or WEEKLY on the Remote Commander.
5 Insert a blank cassette.
6 Press TIMER REC on the Remote Commander.
7 Leave the A/B switch in 'A'.

● Scrambled Channels

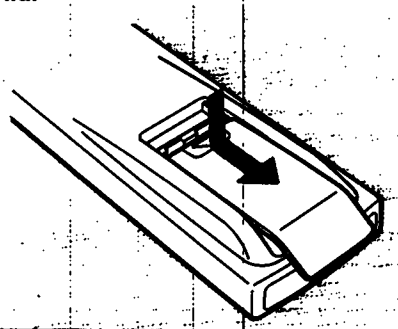
1 Switch the A/B switch to 'B'.
2 Switch on the cable box.
3 Select the channel you want to record on the cable box.
4 Enter the program's PlusCode number.
5 Press ONCE, DAILY, or WEEKLY on the Remote Commander.
6 Insert a blank cassette.
7 Press TIMER REC on the Remote Commander.
8 Leave the A/B switch in 'B'.

Details are on page 45.

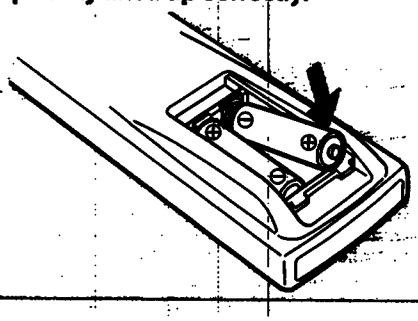
Preparing the Remote Commander

Inserting Batteries

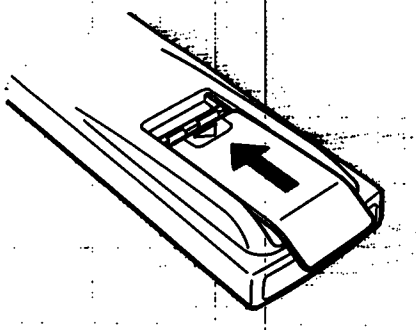
1 Open the lid.



2 Insert two size AA (IEC designation R6) batteries with the polarity lined up correctly.



3 Close the lid.



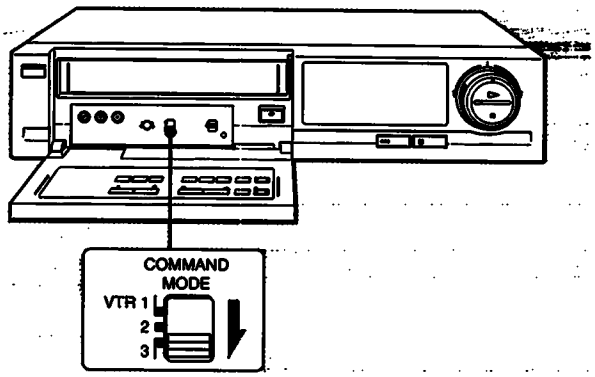
Notes on the handling of batteries

- With normal use, the batteries should last for approximately six months.
- If you do not use the Remote Commander for an extended period of time, remove the batteries to avoid possible damage from battery leakage.

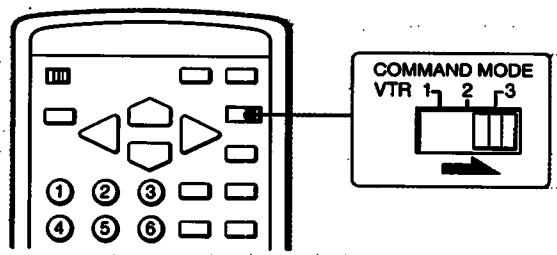
Setting the Command Mode

You can select three different positions for the Command Mode setting.

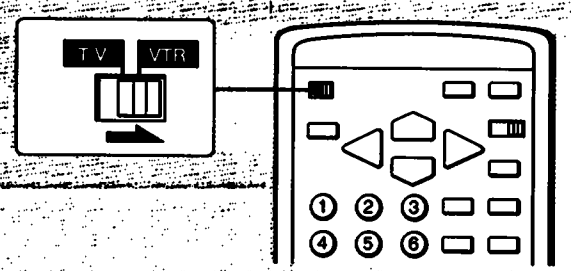
1 Set the COMMAND MODE VTR 1/2/3 selector on the VCR to VTR 3.



2 Set the COMMAND MODE 1/2/3 selector on the Remote Commander to 3.



3 Set the TV/VTR remote control selector on the Remote Commander to VTR.



Controlling Other Sony Video Equipment If Other Sony Video Equipment Has a COMMAND MODE Selector:

1 **Set the Remote Commander COMMAND MODE 1/2/3 selector to a position other than the one you selected for this VCR.**

2 **Set the COMMAND MODE selector of any other video equipment to the same position you selected in step 1.**

If other Sony video equipment does not have a COMMAND MODE selector, you can control other Sony video equipment using the following COMMAND MODE settings:

Infrared remote controlled Sony Betamax VCR's: position 1
(Some of them may not be controlled in this mode.)

Sony 8 mm format VCRs: position 2

Sony VHS format VCRs: position 3

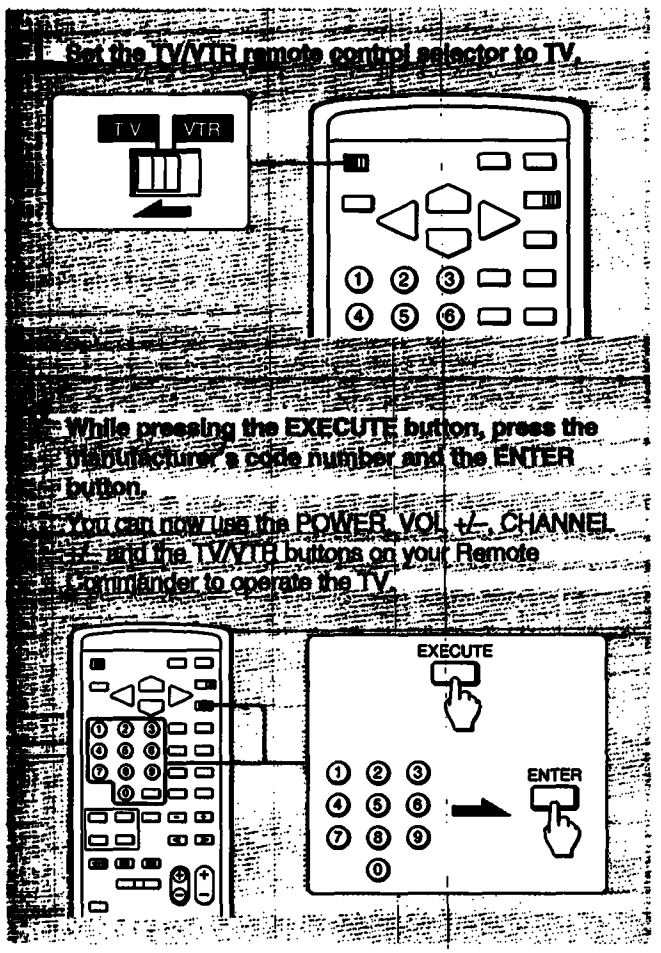
Manufacturers and their Code Numbers (SLV-696HF only)

Your Remote Commander is preprogrammed for use with a number of different TV sets. If your TV is listed in the table below, set the appropriate manufacturer's code prior to using the Remote Commander.

Manufacturer	Code Number	Manufacturer	Code Number
SONY	1	Philco	3, 4
Akai	4	Philips	8
AOC	4	Pioneer	15
Centurion	12	Portland	3
Coronado	3	Quasar	6
Curtis-Mathes	12	Radio Shack	5
Daytron	12	RCA	4, 10
Fisher	11	Sampo	12
General Electric	6, 10	Sanyo	11
Hitachi	2, 3	Scott	12
J.C.Penney	4, 12	Sears	7,10,11
JVC	9	Sylvania	8, 12
KMC	3	Teknika	3, 8
Magnavox	3, 8,12	Toshiba	7
Marantz	4, 13	Wards	3, 4, 12
MGA/Mitsubishi	4, 12,13	Yorx	12
NEC	4, 12	Zenith	14
Panasonic	6		

Setting the Manufacturer's Code Number

The following steps show you how to use your Remote Commander to set the appropriate manufacturer's code number for a non-Sony TV.


1 Set the TV/VTR remote control selector to TV.
TV
VTR
2 While pressing the EXECUTE button, press the manufacturer's code number and the ENTER button.
3 You can now use the POWER, VOL +/–, CHANNEL +/–, and the TV/VTR buttons on your Remote Commander to operate the TV.
EXECUTE
ENTER

NOTES:

- The TV/VTR button may not function, depending on the manufacturer. If this problem occurs, use your TV's remote control unit.
- If more than one code number is listed, try entering them one at a time until you find the one that works with your TV.
- If you enter a new code number, the code number previously entered will be erased.
- If you release the EXECUTE button before pressing the ENTER button, the setting will be cancelled.
- Some manufacturers may use a different remote control system from the one programmed to work with your VCR. If this is the case, and you are unable to operate the TV with your Remote Commander, use the TV's remote control unit instead.
- When you replace the batteries in the Remote Commander, the code number automatically resets to 1 (SONY). Reset the appropriate code number, if necessary.

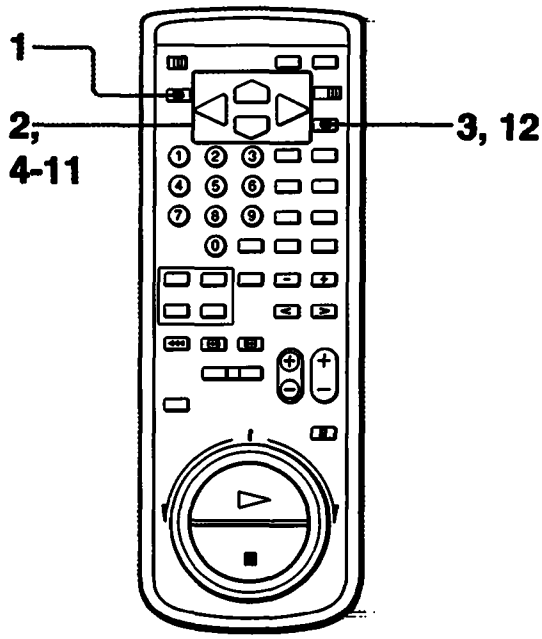
Setting the Time and Date

You can set the VCR time and date on the TV screen using the Remote Commander.

Example of Time and Date Setting

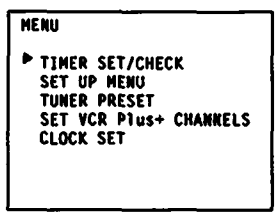
Example: To set to 3:32 pm, July 4, 1992

Use ▲ and ▼ to move the cursor.
Use ◀ and ▶ to select the items.

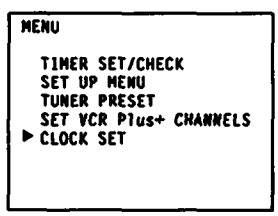


1 Press MENU.

The main MENU appears.

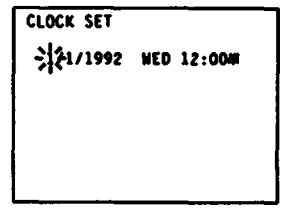


2 Press ▲ or ▼ to move the cursor (▶) to CLOCK SET.

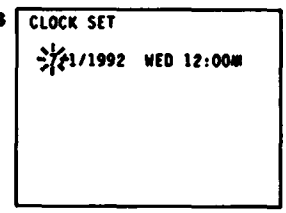


3 Press EXECUTE.

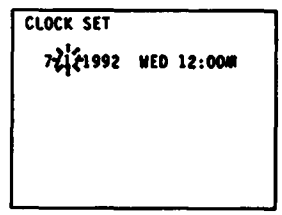
"1/1 1992 WED 12:00 AM" is displayed. The leftmost 1, in the "month" position, flashes.



4 Press ▲ or ▼ until 7 appears in the month position.

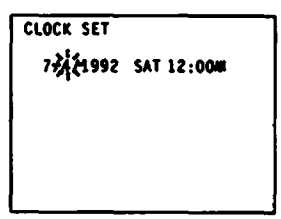


5 Press ▶ to make the next number in the "day" position flash.

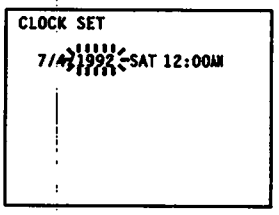


6 Press ▲ or ▼ until 4 appears in the day position.

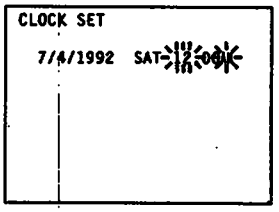
The day of the week is set automatically.



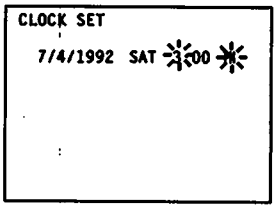
7 **Press ▶ to make the year flash and press ▲ to change the year.**



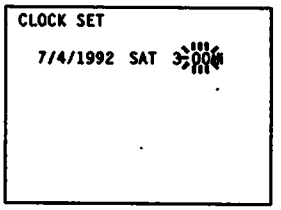
8 **Press ▶ to make the time flash.**



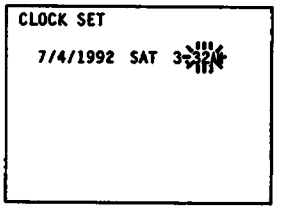
9 **Press ▲ or ▼ until 3 PM appears.**



10 **Press ▶ to make the minute flash.**



11 **Press ▲ or ▼ until 32 appears in the minute position.**



12 **Press EXECUTE at the same time that you hear the time signal.**

Pressing EXECUTE will set the clock to 3:32 pm 00 seconds.

NOTES:

- Do not set the time and date during timer-activated recording, timer recording standby or quick-timer recording.
- When the time and date clock is displayed the clock keeps running as long as no changes are made. The seconds are not reset to 00 when you return to the original screen.

Presetting the Active Channels

This VCR is capable of receiving VHF channels 2 to 13, UHF channels 14 to 69 and CATV channels 1 to 125. These channels can be preset using the Remote Commander and the TUNER PRESET display. First, we recommend that you preset the active channels in your area using the automatic preset mode. Then, if there are any unwanted channels, disable them manually. If you have already decided which channels you wish to preset on the VCR, set them directly using the channel number buttons.

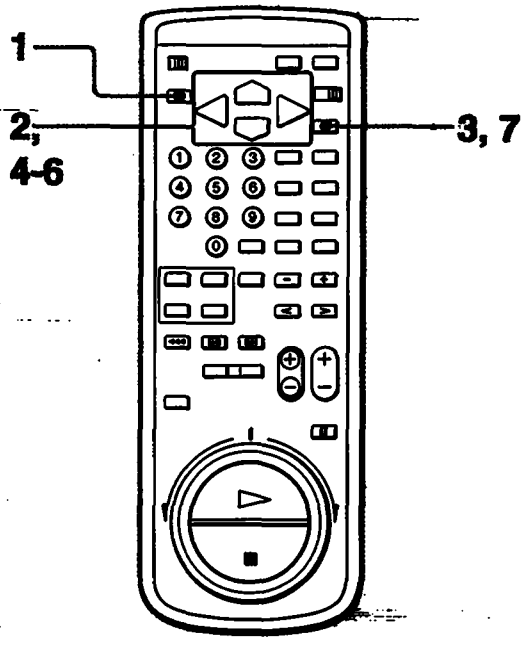
Before presetting channels, check the following points:

- Turn ON the VCR and the TV.
- If you have connected the TV and the VCR using the VHF/UHF OUT on the VCR only, make sure that the TV is set to the correct channel (CH 3 or CH 4) for the VCR.
- Press TV/VTR to display the VTR indicator in the display window on the VCR.
- Press INPUT SELECT so that the TUNER indicator and channel number appear in the display window on the VCR.

Presetting All Receivable Channels Automatically

Use ▲ and ▼ to move the cursor.

Use ◀ and ▶ to select the items.



1 Press MENU.

The main MENU appears.

```
MENU

▶ TIMER SET/CHECK
  SET UP MENU
  TUNER PRESET
  SET VCR Plus+ CHANNELS
  CLOCK SET
```

2 Press ▲ or ▼ to move the cursor (▶) to TUNER PRESET.

```
MENU

  TIMER SET/CHECK
  SET UP MENU
▶ TUNER PRESET
  SET VCR Plus+ CHANNELS
  CLOCK SET
```

3 Press EXECUTE.

The TUNER PRESET menu is displayed.

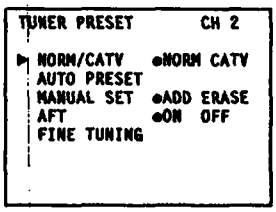
```
TUNER PRESET          CH 2

  NORM/CATV    ●NORM CATV
  AUTO PRESET
▶ MANUAL SET   ●ADD ERASE
  AFT          ●ON  OFF
  FINE TUNING
```

4 Press ▲ or ▼ to move the cursor to NORM/CATV.

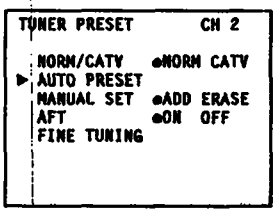
```
TUNER PRESET          CH 2

▶ NORM/CATV    ●NORM CATV
  AUTO PRESET
  MANUAL SET   ●ADD ERASE
  AFT          ●ON  OFF
  FINE TUNING
```

5 Press ◀ or ▶ to select NORM or CATV.

NORM presets the VHF and UHF channels; CATV presets your cable TV channels. The lowest channel number, 2 for NORM and 1 for CATV, will appear on the screen.



6 Press ▲ or ▼ to move the cursor to AUTO PRESET.



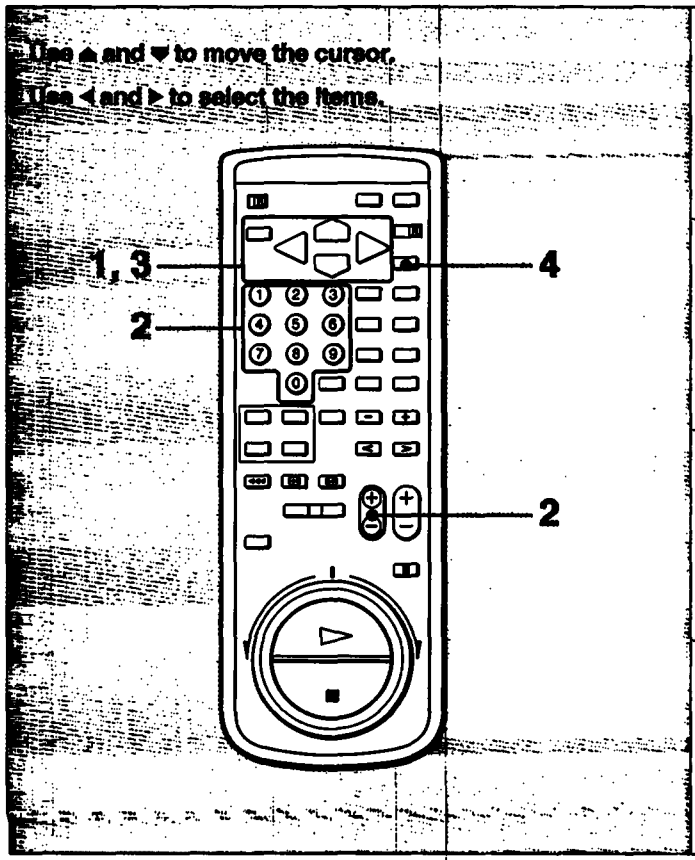
7 Press EXECUTE.

Receivable channels are preset in numerical sequence. When no more channels can be found, the presetting stops and the picture of the lowest numbered channel is displayed on the tape counter. "please wait" is flashing while presetting on the TV screen.

NOTE:
The VCR automatically exits from the TUNER PRESET menu if you don't proceed for more than one minute.

Presetting Desired Channels or Disabling Unwanted Channels

After automatic presetting, you can disable and/or add channels.



1 Follow steps 1 to 3 in "Presetting All Receivable Channels Automatically" on page 22.

2 To disable channels, press CH +/– to select the channel.
To add channels, press channel number buttons (0 to 9) and ENTER key to select the channel.

3 To disable channels, press ◀ or ▶ to select ERASE.
To add channels, press ◀ or ▶ to select ADD.

4 Press EXECUTE.

When you press CH +/–, the disabled channels are removed and the added channels are displayed.

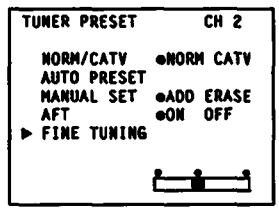
Fine-tuning

Normally, the Auto Fine Tuning (AFT) setting on the menu is set to ON, and the AFT function fine-tunes the picture. If the picture of a channel is not acceptable, fine-tune it manually.

1 Display the TUNER PRESET menu referring to steps 1 to 3 in "Presetting All Receivable Channels Automatically" (page 22).

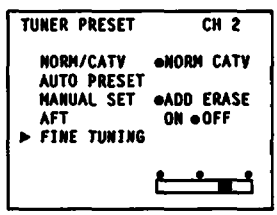
2 Press ▲ or ▼ to move the cursor to FINE TUNING.

The fine tuning indicator is displayed.

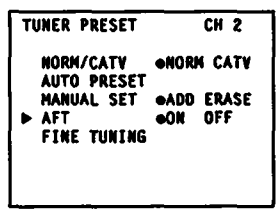


3 Press ◀ or ▶ to get a clearer picture.

The AFT ON/OFF automatically switches to OFF.



4 Press ▲ to move the cursor to AFT and select ON if you cannot get a better picture. Then, press EXECUTE.



The FINE TUNING indicator

The FINE TUNING indicator shows the operable fine-tuning range and stops at the optimal point of reception. When the VCR's tuner is receiving an optimal broadcast signal, the indicator stops at the center position or one space right or left of the center position. However, even when a broadcast is received in an optimal condition, the indicator may not be at the position described.

Cable TV Channel Assignment

Cable TV systems use letters or numerals to designate the channels. To tune-in a CATV channel, refer to the chart below which shows the CATV channel numbers on this VCR and the corresponding CATV channel. Note that the channel number assignment shown in the chart may not correspond to the channel number used by your local cable company. Check with your local cable TV company for more information on the available channels.

Number on this VCR	1	2	...	13	14	15	16	17	18
Corresponding CATV channel	A-8	2	...	13	A	B	C	D	E

19	20	21	22	23	24	25	26	27	28	29	30	31	32
F	G	H	I	J	K	L	M	N	O	P	Q	R	S

33	34	35	36	37	...	94	95	96	97	98	99
T	U	V	W	W+1	...	W+58	A-5	A-4	A-3	A-2	A-1

100	...	125
W+59	...	W+84

This VCR is designed to correspond to the standard cable system. However, the cable TV services may vary from area to area. Your local cable TV company may adopt either the HRC[1] or IRC[2] cable system. This VCR is capable of receiving either of these cable systems in the best condition.

1) **HRC (Harmonic Related Carriers)**
   All channels except for 5 and 6 are 1250 kHz lower than the standard cable system. Channels 5 and 6 are 750 kHz higher than the standard cable system.

2) **IRC (Incremental Related Carriers)**
   All channels except for 5 and 6 are the same as the standard cable system. Channels 5 and 6 are 2000 kHz higher than the standard cable system.

FINE TUNING indicator for receiving HRC or IRC cable systems

Even when the signals are received in optimal condition, the FINE TUNING indicator will not stay at the center position for channels higher or lower that the standard cable system due to the difference in the frequency.

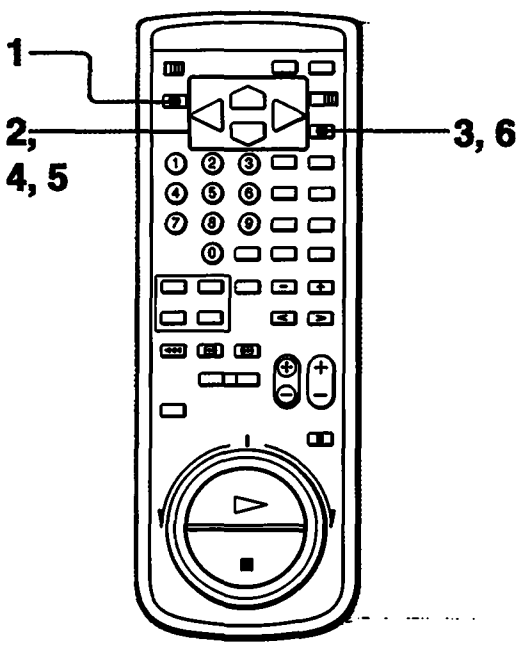
NOTE:
Pay cable TV systems use scrambled or encoded signals and require special converters (decoders) in addition to the normal cable connection.

Using The SET UP MENU

Before using your VCR, make your preferred audio and video display choices from the SET UP MENU.

Use ▲ and ▼ to move the cursor.

Use ◀ and ▶ to select the items.



1 Press MENU.

The main MENU appears.

```
MENU

▶ TIMER SET/CHECK
  SET UP MENU
  TUNER PRESET
  SET VCR Plus+ CHANNELS
  CLOCK SET
```

2 Press ▲ or ▼ to move the cursor (▶) to SET UP MENU.

```
MENU

  TIMER SET/CHECK
▶ SET UP MENU
  TUNER PRESET
  SET VCR Plus+ CHANNELS
  CLOCK SET
```

3 Press EXECUTE.

The SET UP MENU appears.

```
SET UP MENU

LANGUAGE ●ENGLISH FRENCH

▶AUTO ANT SEL ● ON  OFF
 AUTO STEREO  ● ON  OFF
 CLOCK DISPLAY● ON  OFF
 AUDIO MIX      ON● OFF
 NORMAL AUDIO ●MAIN SAP
```

4 Press ▲ or ▼ to move the cursor to the desired menu choice. (For Menu Choices, see the next page.) Next, press ◀ or ▶ to change the mode setting to ON or OFF.

```
SET UP MENU

LANGUAGE ●ENGLISH FRENCH

▶AUTO ANT SEL ● ON  OFF
 AUTO STEREO  ● ON  OFF
 CLOCK DISPLAY● ON  OFF
 AUDIO MIX      ON● OFF
 NORMAL AUDIO ●MAIN SAP
```

5 Press ◀ or ▶ to move the dot (●) to the desired setting.

6 Press EXECUTE to return to the original screen.

The settings are stored. The displayed page is stored unless the power plug is disconnected.

Menu Choices

LANGUAGE (Canadian versions only)

You can preset your VCR to display screen information in either English or French.

AUTO ANT SEL (Automatic Antenna Selector)

- If your TV is connected only to VHF/UHF OUT on the VCR, set to ON.

When playing back a cassette, the picture is automatically displayed on the screen simply by selecting the channel for the VCR on the TV. To watch TV programs selected on the TV, press TV/VTR to turn off the VTR indicator in the display window.

- If your TV is connected to both VHF/UHF OUT and LINE OUT on the VCR, set to OFF.

When playing back a cassette, select the input for the VCR on the TV.

To watch TV programs selected on the TV, select the tuner input.

AUTO STEREO

If a stereo program's reception is poor, set to OFF. The program is recorded in monaural but sound quality may improve. For details, see page 35.

CLOCK DISPLAY

To erase the current time and date from the on-screen display, set to OFF.

AUDIO MIX

To listen to sound recorded on both the hi-fi video track and the normal audio track of the audio tape, set to ON. For details, see page 32.

NORMAL AUDIO

When there is a SAP (Second Audio Program) broadcast, select SAP to record the SAP sound on the normal audio track. For details, see page 35.

NOTE:
The VCR automatically exits from the main MENU and SET UP MENU if you don't proceed for more than one minute.

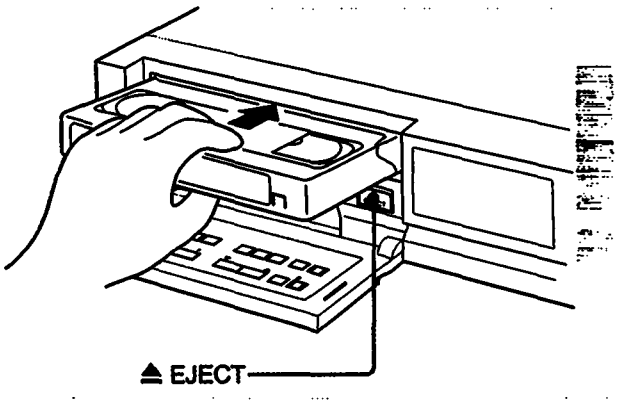
Playback

This section shows you how to play back a video cassette.

Inserting a Video Cassette

1 Insert a video cassette as shown below.

2 Gently press the center of the front side of the cassette until the mechanism draws it into the compartment.
When the cassette has been loaded, the cassette indicator ([cassette]) lights in the display window and the VCR turns on automatically.



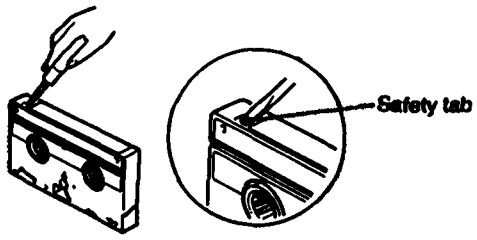
NOTE:
If you insert a cassette without a safety tab, playback starts automatically (auto playback function).

Ejecting the cassette

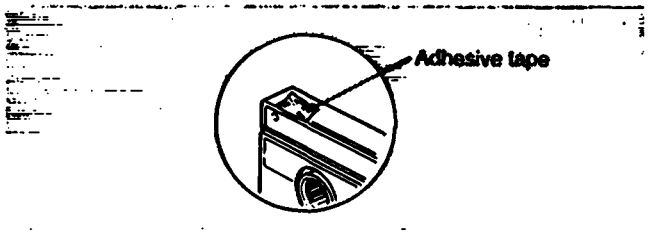
Press ▲ EJECT on the VCR. You can eject the cassette when the power is off. When you press ▲ EJECT, the power is turned on. After ejecting the cassette, the power automatically shuts off.

Protecting your cassette against accidental erasure

Cassettes have a safety tab to protect against accidental recording. Break off the safety tab with a screwdriver or other tool. If the safety tab is removed, the cassette will be ejected when you try to record on it.



To record on a cassette with the safety tab broken off, simply cover the tab hole with adhesive tape.



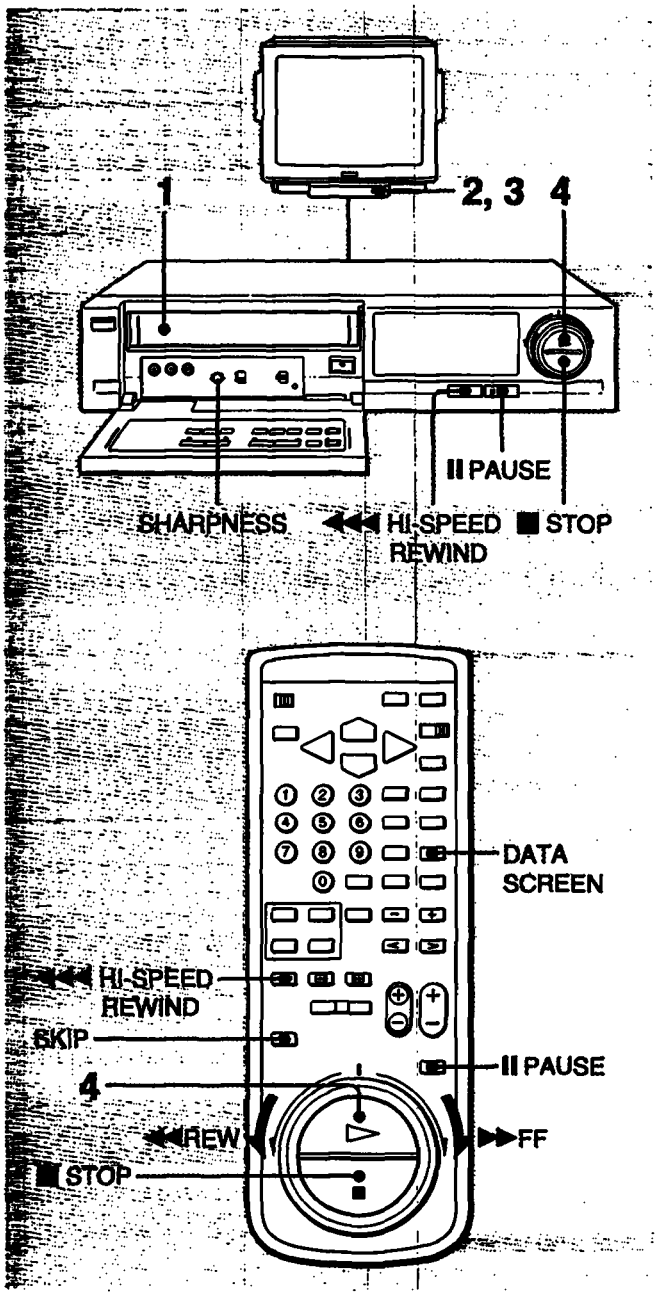
Maximum recording time of a cassette

Recording in either the SP or EP mode is possible with this VCR. When recording, select the desired recording mode (SP or EP) using TAPE SPEED on the Remote Commander or the VCR. During playback, the VCR automatically detects the recording format, and then plays back the cassette in the appropriate mode. A cassette recorded in the EP mode runs three times as slowly as a cassette recorded in the SP mode. Refer to the chart below for the recording/playback times available.

Cassette tape	Recording / Playback time	
	SP mode	EP mode
T-180	3 hr.	9 hr.
T-160	2 hr. 40 min.	8 hr.
T-120	2 hr.	6 hr.
T-60	1 hr.	3 hr.
T-30	30 min.	1 hr. 30 min.

Cassettes recorded in LP mode

Playback of cassettes recorded in LP mode is also possible with this VCR. However, playback in modes other than normal forward speed is not guaranteed. This VCR is not designed to record in the LP mode.



1 **Insert a cassette.**

2 **Turn on the TV.**

3 **If your TV is connected to both VHF/UHF OUT and LINE OUT on the VCR, select the input for the VCR. If your TV is connected only to the VHF/UHF OUT on the VCR, select the channel for the VCR (CH 3 or CH 4).**

4 **Press ▷ PLAY.**

To stop playback:

Press ■ STOP.

To stop playback for a moment:

Press II PAUSE.

Press II PAUSE again or ▷ PLAY to resume playback.

To fast-forward the cassette at high speed during stop mode:

Turn the DUAL MODE SHUTTLE ring to the right (▶▶).

To rewind the cassette during stop mode:

Turn the DUAL MODE SHUTTLE ring to the left (◀◀).

To rewind the cassette at high speed:

Press ◀◀◀ HI-SPEED REWIND.

To rewind the cassette to its beginning and to playback automatically (auto playback function):

Press ▷ PLAY while depressing ◀◀◀ HI-SPEED REWIND or by using the DUAL MODE SHUTTLE ring.
You cannot use the Remote Commander for the auto playback function.

To get a sharper picture:

Turn the SHARPNESS control to SHARP.

To get a softer picture:

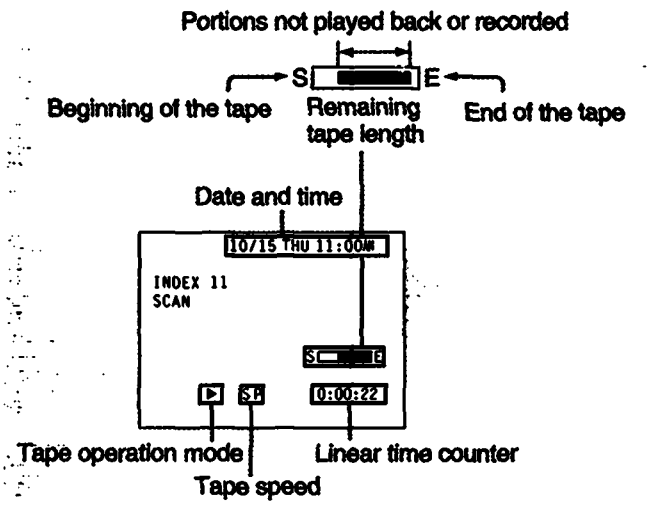
Turn the SHARPNESS control to SOFT.

When the cassette reaches its end:

The cassette automatically rewinds to the beginning (auto rewind), and power remains on.

The Data Screen

To delete or call up the data screen on the TV screen, press DATA SCREEN on the Remote Commander.

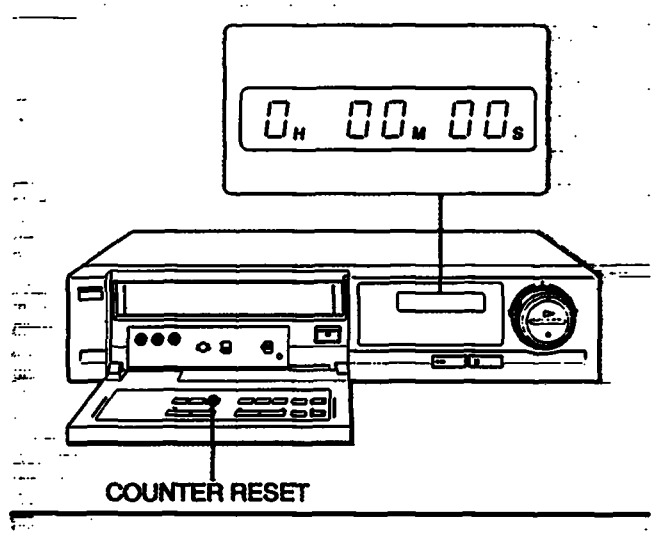


NOTES:

- *The remaining tape length displayed is approximate.* Therefore, use it only as an approximate reference.
- When you insert a cassette with a short tape length such as T-20, T-30 or a non-standard commercially available cassette, this indicator may not function correctly.
- The data screen display cannot be displayed on the screen during still mode, slow motion playback or high-speed playback.

Indexing Tape Contents

Before recording or playback, press COUNTER RESET on the VCR to reset the counter to zero. By noting the setting, you can find that point later by referring to the counter. Use the label on the cassette to list the programs and their counter readings.

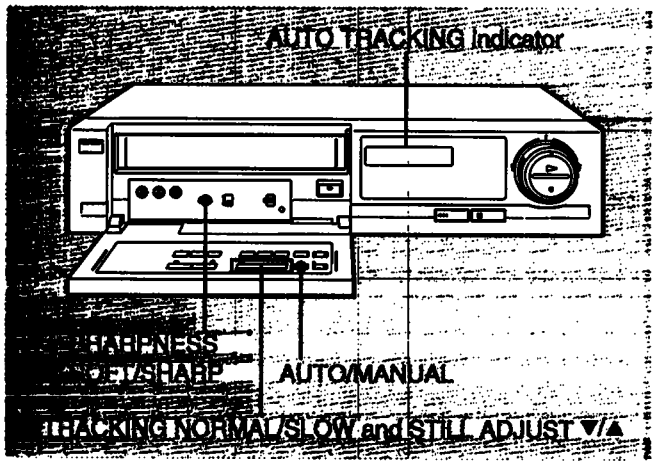


NOTES ON COUNTER READING:

- *After a cassette is ejected, the counter reading is* retained. When a cassette is reinserted the counter returns to "0H00M00S".
- The counter does not work properly on the portions on which no recording has been made.

Playing Back Externally-Recorded Tapes

When playing back a cassette recorded on another VCR, the tracking condition is automatically adjusted. You can also adjust the tracking condition and the sharpness manually according to the following instructions.

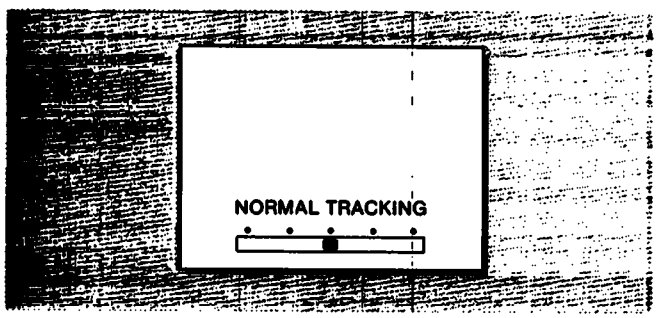


Manual tracking adjustment

When the playback picture has streaks or snow during normal playback, adjust the picture manually with TRACKING NORMAL/SLOW and STILL ADJUST ▼/▲.

Press either ▲ or ▼ for the best possible picture. The tracking meter will appear on the TV screen and the AUTO TRACKING indicator will turn off.

When the manual adjustment proves unsatisfactory, press both TRACKING NORMAL/SLOW and STILL ADJUST ▼/▲. The tracking condition will return to the center position.



Automatic tracking adjustment

The tracking condition is automatically adjusted on this VCR. The AUTO TRACKING indicator flashes while the VCR is searching for the optimal tracking condition and lights when optimum playback picture is obtained. The automatic tracking control is activated in the following conditions:

- When the cassette is inserted for the first time
- When the recording mode on the playback cassette is switched from SP to EP and back again
- When the picture is distorted by scratches on the cassette
- When the AUTO TRACKING indicator is turned on by pressing TRACKING AUTO/MANUAL after the picture is adjusted manually

Adjusting the sharpness

Turn the SHARPNESS SOFT/SHARP control toward SHARP for a sharper picture. Turn it toward SOFT for a softer picture.

NOTES:

- Auto tracking adjustment is not possible for cassettes recorded in LP mode.
- Auto tracking adjustment may be impossible and the tracking indicator may not appear on the TV screen when the recording condition of the cassette is poor.
- During auto tracking adjustment, streaks or noise may occur.
- The tracking indicator will only appear on the TV screen if the DATA SCREEN is in the ON position.

Selecting the Monitor Sound

You can play back cassettes on which stereo sound or bilingual programs are recorded.
Press AUDIO MONITOR to select the desired sound mode. Each press of the button changes the display on the VCR.

NOTE:
When you play back a cassette recorded in monaural, the sound is heard in monaural regardless of the setting of the AUDIO MONITOR.

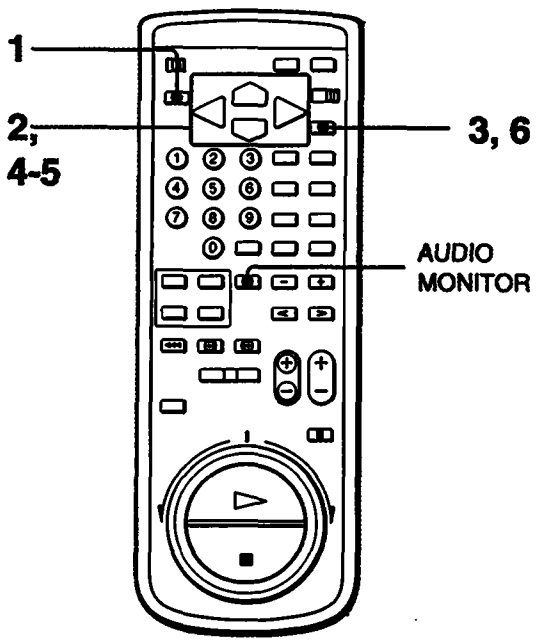
Sound Mode

Display	Sound to be heard	
	Stereo tape	Bilingual tape
STEREO	Stereo	Left and right channels
MAIN/L	Left channel	Left channel
SUB/R	Right channel	Right channel
None	Monaural on normal audio track	Sound on normal audio track (SAP)

Listening to Mixed Hi-Fi and Normal Track Sound

You can hear sound recorded on the hi-fi video track and the normal audio track simultaneously. This allows you to listen to an audio-inserted cassette.

Use ▲ and ▼ to move the cursor.
Use ◀ and ▶ to select items.



1 Press MENU.
The main MENU appears.

```
MENU

▶ TIMER SET/CHECK
  SET UP MENU
  TUNER PRESET
  SET VCR Plus+ CHANNELS
  CLOCK SET
```

2 Press ▲ or ▼ to move the cursor (▶) to SET UP MENU.

```
MENU

  TIMER SET/CHECK
▶ SET UP MENU
  TUNER PRESET
  SET VCR Plus+ CHANNELS
  CLOCK SET
```

3 Press EXECUTE.
The SET UP MENU appears.

```
SET UP MENU

LANGUAGE ●ENGLISH FRENCH

▶AUTO ANT SEL  ●ON  OFF
 AUTO STEREO   ●ON  OFF
 CLOCK DISPLAY ●ON  OFF
 AUDIO MIX      ON ●OFF
 NORMAL AUDIO  ●MAIN SAP
```

4 Press ▲ or ▼ to move the cursor to AUDIO MIX.

```
SET UP MENU

LANGUAGE ●ENGLISH FRENCH

 AUTO ANT SEL  ●ON  OFF
 AUTO STEREO   ●ON  OFF
 CLOCK DISPLAY ●ON  OFF
▶AUDIO MIX      ON ●OFF
 NORMAL AUDIO  ●MAIN SAP
```

5 Press ◀ or ▶ to move the dot (●) to ON.

```
SET UP MENU

LANGUAGE ●ENGLISH FRENCH

 AUTO ANT SEL  ●ON  OFF
 AUTO STEREO   ●ON  OFF
 CLOCK DISPLAY ●ON  OFF
▶AUDIO MIX     ●ON  OFF
 NORMAL AUDIO  ●MAIN SAP
```

6 Press EXECUTE to return to the original screen.

NOTES:
- When you set AUDIO MIX to ON, the AUDIO MONITOR button does not function.
- Reset to OFF after listening to the sound in audio mix mode.

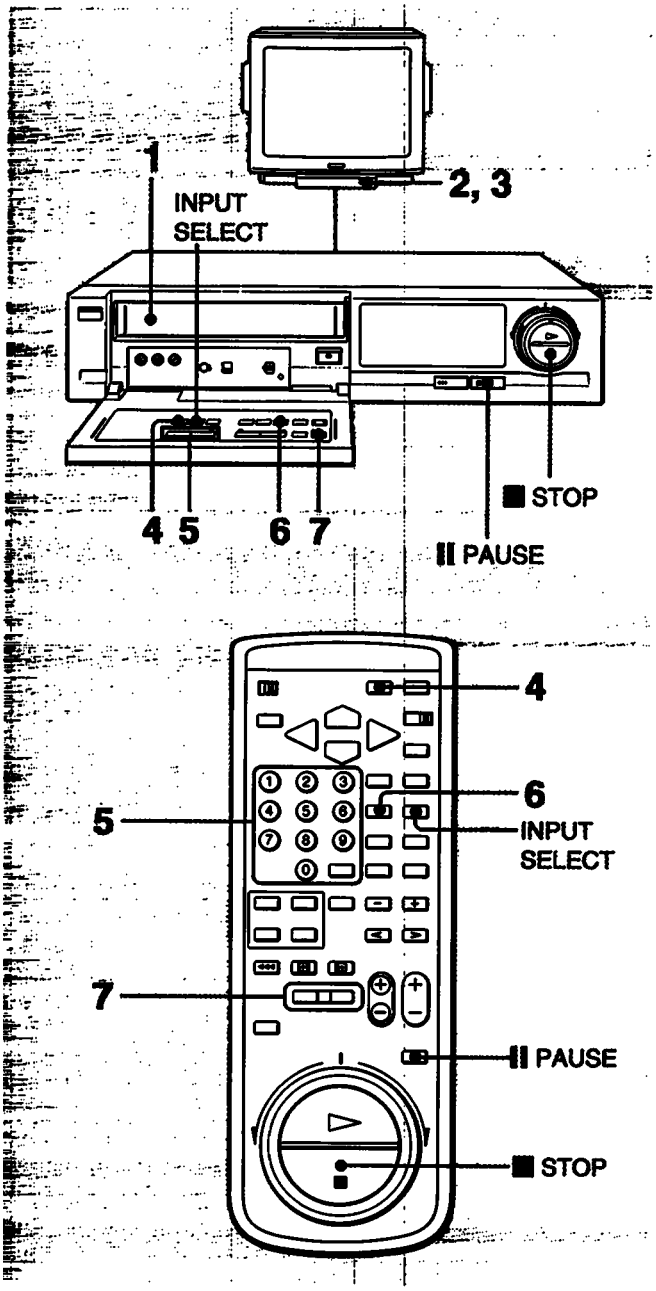
Recording TV Programs

Before you begin, check the following points:

- Make sure that the connections have been made correctly (see pages 6 to 14).
- Check the input mode indicator in the display window of the VCR.
  Press INPUT SELECT to light the TUNER indicator in the display window.

CAUTION:
Television programs, films, video cassettes and other materials may be copyrighted. Unauthorized recording of such material may be contrary to the provisions of the copyright laws. Also, use of this recorder with cable television transmission may require authorization for the cable television transmission and/or program owner.

Recording TV Programs



1 Insert a cassette.
The VCR turns on automatically (auto power on).

2 Turn on the TV.

3 If your TV is connected to both VHF/UHF OUT and LINE OUT on the VCR, select the input for the VCR.

4 If your TV is connected only to VHF/UHF OUT, set the TV to the correct channel (CH 3 or CH 4), then press TV/VTR so that the VTR indicator lights up.
Skip this step if your VCR is connected to both the VHF/UHF OUT and LINE OUT.

5 Select the channel to be recorded with CHANNEL +/– or channel number buttons and ENTER.

6 Select SP or EP with TAPE SPEED (SP/EP).
To select the best recording tape speed, see "Maximum Recording Time of a Cassette" on page 28.

7 Press the two ● REC buttons on the Remote Commander at the same time, or the ● REC button on the VCR.

To stop recording:

Press ■ STOP.

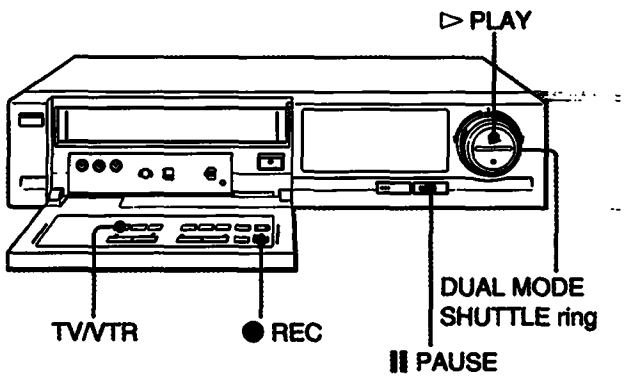
To pause the cassette:

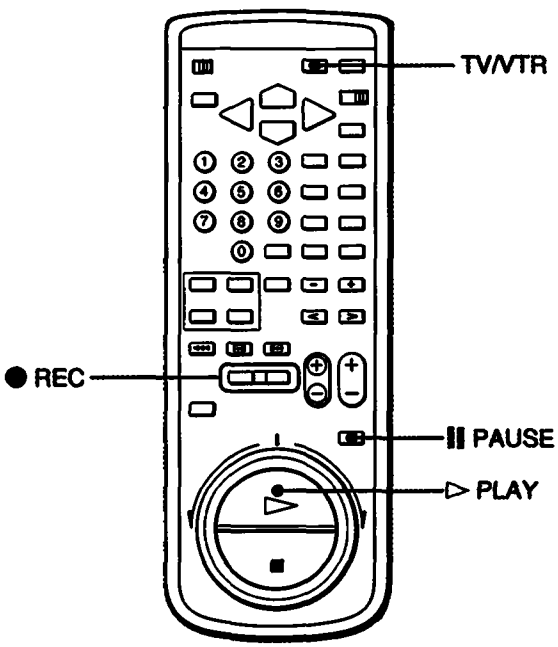
Press II PAUSE. To resume recording, press II PAUSE. When the recording pause mode lasts for approximately 5 minutes, the VCR enters the stop mode.

When the cassette reaches its end:

The cassette rewinds to the beginning and the power remains on.

Pausing





Technique 1

You can stop recording an unwanted scene and resume recording smoothly.

1 **Press II PAUSE when an unwanted scene appears.**
Recording will stop and the VCR enters the recording pause mode.

2 **Press II PAUSE at the desired point to release the pause mode.**
Recording resumes from the point set in step 1.

Technique 2

When an unwanted scene has already started recording, you can return the cassette to the desired point, have the VCR standby in the recording pause mode, and resume recording at the desired scene.

1 **Press II PAUSE to set the VCR to the recording pause mode.**

2 **Turn the DUAL MODE SHUTTLE ring to the left to search for the point from which you wish to continue recording.**

3 **Release the DUAL MODE SHUTTLE ring at the desired point.**
After an instant in still mode, the VCR automatically enters the recording pause mode.

4 **Press II PAUSE.**
Recording resumes.

Recording with the TV Off

Turn off the power of the TV or color monitor.
There will be no interference with the recording.

Watching One TV Program While Recording Another

1 Press TV/VTR so that the VTR indicator goes off.

2 Select the channel you want to watch on the TV.

VTR Indicator	Picture on the TV Screen
Lit	Channel selected by the VCR or the playback picture of the VCR
Unlit	Channel selected by the TV

Recording Multi-channel TV Sound (MTS) Broadcasts

To record a stereo broadcast:

When a stereo broadcast program is received, the STEREO indicator appears in the display window of the VCR. The stereo program is automatically recorded in stereo. If a stereo program's reception is poor, set AUTO STEREO to OFF in the SET UP MENU. (See page 27.) The sound is heard in monaural but the noise is reduced.

```
SET UP MENU

LANGUAGE ●ENGLISH FRENCH

  AUTO ANT SEL    ●ON  OFF
▶ AUTO STEREO      ON ●OFF
  CLOCK DISPLAY   ●ON  OFF
  AUDIO MIX        ON ●OFF
  NORMAL AUDIO ●MAIN  SAP
```

To record SAP (Second Audio Program) broadcast:

Normally, set NORMAL AUDIO to MAIN in the SET UP MENU. The main sound is recorded on the normal track. To record the SAP sound on the normal audio track, set NORMAL AUDIO to SAP in the SET UP MENU.

To monitor the SAP sound during recording, press AUDIO MONITOR to light the SAP indicator in the display window.

```
SET UP MENU

LANGUAGE ●ENGLISH FRENCH

  AUTO ANT SEL    ●ON  OFF
  AUTO STEREO     ●ON  OFF
  CLOCK DISPLAY   ●ON  OFF
  AUDIO MIX        ON ●OFF
▶NORMAL AUDIO   MAIN ●SAP
```

NOTES:

- When not recording an SAP broadcast, select MAIN. If you select SAP, no sound is recorded on the normal audio track.
- When the TV is connected only to the VHF/UHF OUT on the VCR, you cannot hear the program in stereo.

Timer Recording

The timer recording function lets you preset your VCR to record up to eight programs within a one-month period. You'll do this procedure from the TIMER SET/CHECK display on your TV.

As a First Step

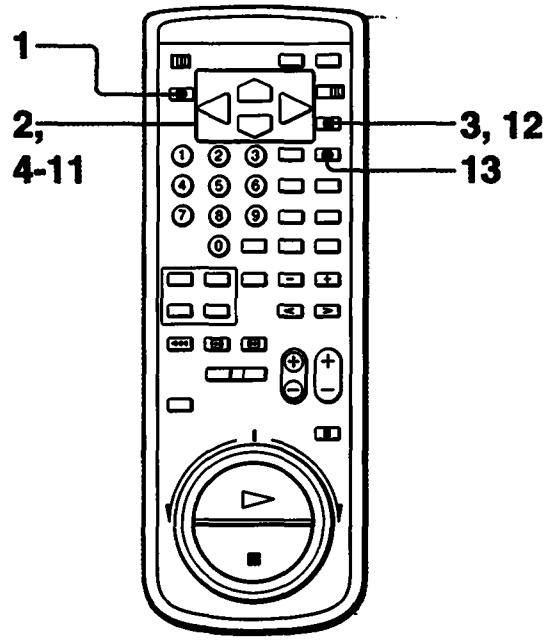
Before setting the timer, make sure that:

- The time and date clock is set correctly. (See "Setting the Time and Date" on page 20.)
- The cassette is long enough to record all the programs.
- The safety tab on the cassette is intact. If you insert a cassette with no safety tab and press TIMER REC (ON/OFF), the cassette automatically ejects from the VCR.
- The VCR and TV are both turned on.

Setting The Timer

EXAMPLE: Here's how to record a program broadcast on channel 26 from 9:00 pm to 10:55 pm on Friday, July 10 in EP mode:

Use ▲ and ▼ to move the cursor.
Use ◀ and ▶ to select items.



1 Press MENU.

The main MENU appears.

```
MENU

▶ TIMER SET/CHECK
  SET UP MENU
  TUNER PRESET
  SET VCR Plus+ CHANNELS
  CLOCK SET
```

2 Press ▲ or ▼ to move the cursor (▶) to TIMER SET/CHECK.

```
MENU

▶ TIMER SET/CHECK
  SET UP MENU
  TUNER PRESET
  SET VCR Plus+ CHANNELS
  CLOCK SET
```

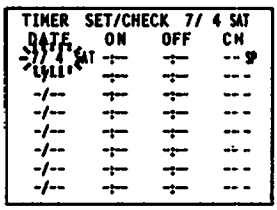
3 Press EXECUTE.

The TIMER SET/CHECK display appears on the screen. A short beep alerts you if the clock is not set properly. To reset the clock, refer to "Setting the Time and Date" (page 20).

```
TIMER SET/CHECK  7/ 4 SAT
 DATE    ON     OFF    CH
▶ -/--   --:--  --:--  ---
  -/--   --:--  --:--  ---
  -/--   --:--  --:--  ---
  -/--   --:--  --:--  ---
  -/--   --:--  --:--  ---
  -/--   --:--  --:--  ---
  -/--   --:--  --:--  ---
  -/--   --:--  --:--  ---
```

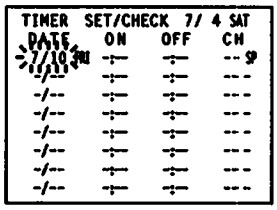
4 Press ▶.

Make sure that today's date is flashing. If it isn't, reset the clock to the correct time. See "Setting the Time and Date" (page 20).

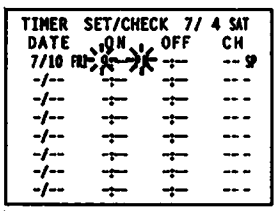


5 Press ▲ to set the month and date to 7/10 FRI.

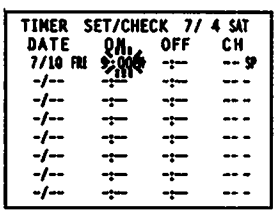
The day of the week is automatically set.



6 Press ▶ to flash the hours section under "ON" then ▲ or ▼ until 9 PM appears.

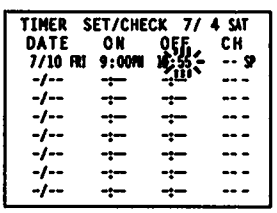


7 Press ▶ to flash the minutes under "ON", then ▲ or ▼ until 00 appears.



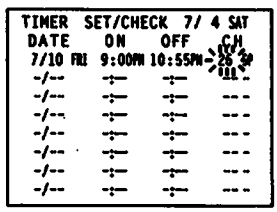
8 Press ▶.

The cursor blinks in the time field under the "OFF" column. Set the time to finish recording, referring to steps 6 and 7.



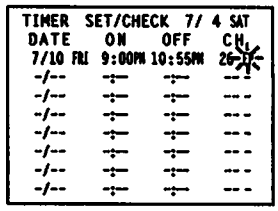
9 Press ▶ to flash the "CH" field, then press ▲ or ▼ until 26 appears.

Only the channels set in the VCR will appear. You can also use the CHANNEL +/– or channel number buttons.



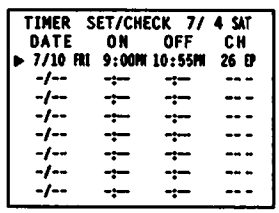
10 Press ▶ or TAPE SPEED to flash the recording speed position, then ▲ or ▼ until EP appears.

To change or correct a setting before entering it, press ◀ to return to the item you wish to change.



11 Press ▶ to store the setting.

When all of the settings stop flashing and display a ▶ in the leftmost column, you've completed the setting.
To preset another program, move the cursor to the next line and repeat steps 4 to 11.



12 Press EXECUTE.

The message "Please push TIMER REC to set timer" appears on the TV screen.

13 Press TIMER REC (ON/OFF).

The VCR enters the timer recording standby mode and the TIMER REC (recording) indicator in the display window lights up.

To stop timer recording:

To stop timer recording while a program is being recorded, press TIMER REC (ON/OFF).

NOTES:

- To change or correct the setting before completing it, press ◀ to return to the item you wish to change.
- To record video sources from LINE IN 1 or 2 jacks, press INPUT SELECT in step 4 to 11 to move the screen cursor to LINE 1 or 2 in the "CH" field. This cursor returns to channel number on the third press.
- If you don't proceed for more than one minute, the VCR automatically exits from the TIMER SET/CHECK menu.

Daily/Weekly Recording

You can preset your VCR for daily or weekly recording. Daily recording records the same program every day of the week while weekly recording records the same program on the same day, every week. Follow steps 1 to 4 in "Setting the Timer" (page 36).
Each time you press ▼, the indicator under the "DATE" column changes to one of these choices:

SUN—SAT (Every day of the week)
⬇
MON—SAT (Every day except Sunday)
⬇
MON—FRI (Every day except Saturday and Sunday)
⬇
EVERY SAT
.
.
.
EVERY TUE
⬇
EVERY MON
⬇
EVERY SUN

When you set and transmit your programs to the VCR, the corresponding indicator lights up in the display window.

The Timer Recording Standby Mode

When you return the VCR to the timer recording standby mode, you can record any previously preset programs. The VCR turns on automatically to record the first preset program. When it finishes recording, the power automatically shuts off.

To stop timer recording, press TIMER REC (ON/OFF).

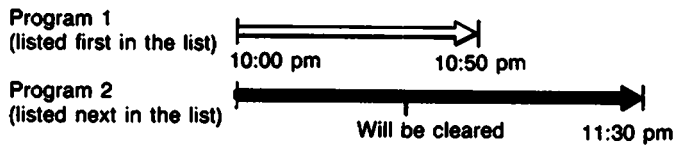
Buttons Operable During Timer Recording

TIMER REC (ON/OFF)	To stop timer recording. (See "Indexing Tape Contents," page 30.)
COUNTER RESET	(See "Indexing Tape Contents," page 30.)
TV/VTR	(See "Watching One TV Program While Recording Another," page 35.)
DATA SCREEN	(See "The Data Screen," page 30.)
MENU	For checking the programs only. (See "Checking the Timer Settings," page 40.)

NOTE:
If a power interruption occurs during timer recording, recording will stop and your VCR will turn off. If power is restored within three hours, and it's before the recording end time, recording will start again from that point. If the interruption lasts for more than three hours, any presettings will be erased and you'll need to reset the time and date for your programs. Note that the tape counter will return to "0H00M00S".

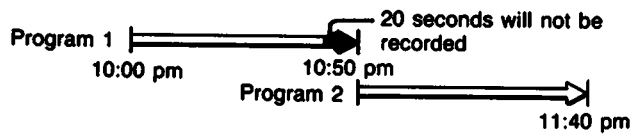
Case 1
If you preset two programs to record at the same time . . .

The program listed first on the TIMER SET/CHECK display has priority over the other programs. The timer settings for lower priority programs will be deleted from the TIMER SET/CHECK display when recording begins for the first program.



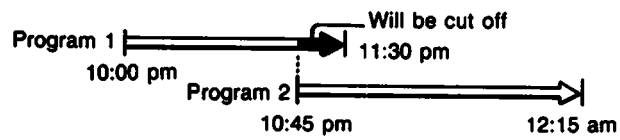
Case 2
If you set program 2 to record at the same time you set program 1 to finish recording . . .

The last 20 seconds of program 1 will not be recorded.



Case 3
If you set program 2 to record before program 1 has finished recording . . .

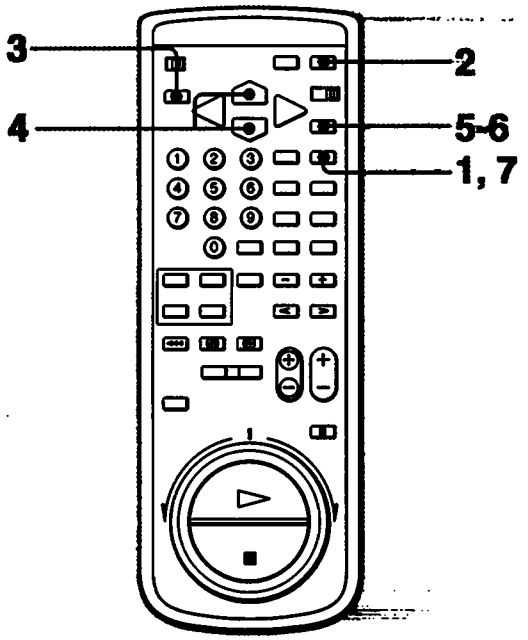
Program 2 will begin recording before program 1 has finished.



Checking the Timer Settings

Here's how to display your timer settings to confirm the programs you wish to record.

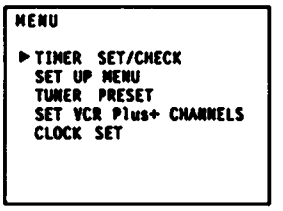
Use ▲ and ▼ to move the cursor.
Use ◀ and ▶ to select items.



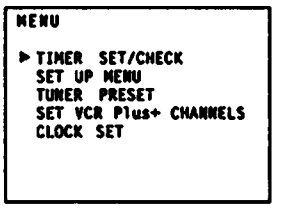
1 Press TIMER REC (ON/OFF).
The TIMER REC (recording) indicator in the display window turns off.

2 Press POWER.

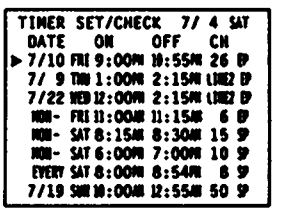
3 Press MENU.
The main MENU appears.



4 Press ▲ or ▼ to move the cursor (▶) to TIMER SET/CHECK.



5 Press EXECUTE.
The TIMER SET/CHECK display appears.


TIMER SET/CHECK 7/ 4 SAT
DATE ON OFF CH
▶7/10 FRI 9:00PM 10:55PM 26
7/ 9 THU 1:00PM 2:15PM
7/22 WED 12:00PM 2:15PM
MON- FRI 11:00AM 11:15AM 6
MON- SAT 8:15AM 8:30AM 15
MON- SAT 6:00PM 7:00PM 10
EVERY SAT 8:00PM 8:54PM 8
7/19 SUN 10:00AM 12:55AM 50

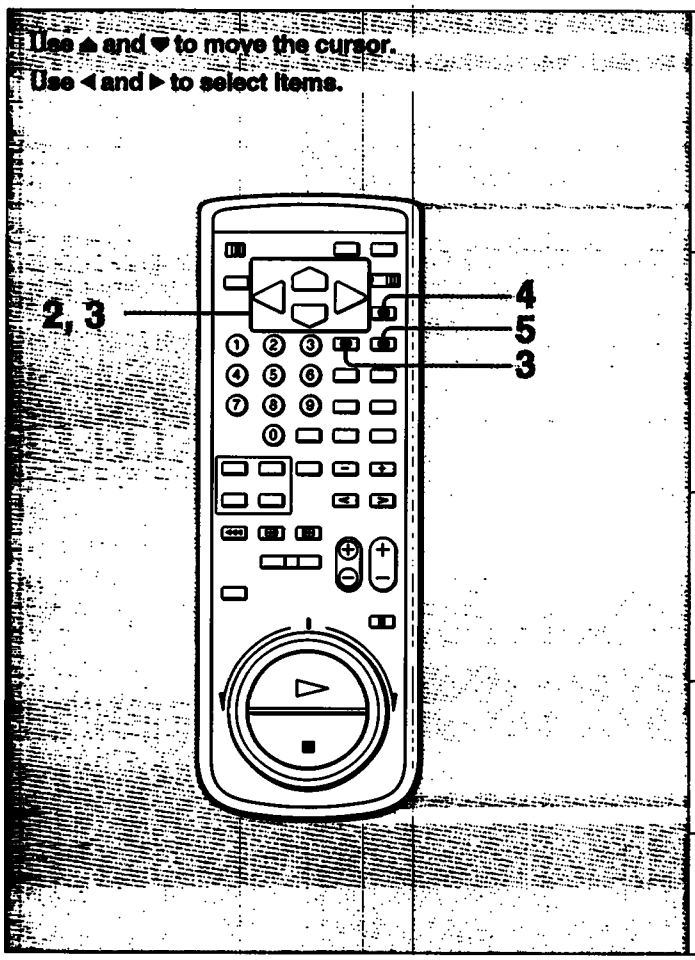
6 Press EXECUTE to return to the original screen.

7 Press TIMER REC (ON/OFF).
The VCR returns to the timer recording standby mode.

NOTES:
- If you set a program to record only one time, that setting is erased from the TIMER SET/CHECK display when the recording has finished.
- To check the timer settings during timer recording, follow steps 3 to 6 above.

Changing or Cancelling the Timer Settings

Here's how to change or cancel any timer settings from the TIMER SET/CHECK display:



1 **Display the TIMER SET/CHECK menu on the TV screen by following the procedures outlined in "Checking the Timer Settings" on page 40.**

```
TIMER SET/CHECK  7/ 4 SAT
 DATE    ON     OFF    CH
▶7/10 FRI 9:00PM 10:55PM 26 EP
 7/ 9 THU 1:00PM 2:15PM L1M2 EP
 7/22 WED 12:00PM 2:15PM L1M2 EP
 MON- FRI 11:00AM 11:15AM  6 EP
 MON- SAT 8:15AM 8:30AM 15 SP
 MON- SAT 6:00PM 7:00PM 10 SP
 EVERY SAT 8:00PM 8:54PM  8 SP
 7/19 SUN 10:00AM 12:55AM 50 SP
```

2 **Press ▲ or ▼ to move the cursor (▶) to the program you wish to change or cancel.**

```
TIMER SET/CHECK  7/ 4 SAT
 DATE    ON     OFF    CH
▶7/10 FRI 9:00PM 10:55PM 26 EP
 7/ 9 THU 1:00PM 2:15PM L1M2 EP
 7/22 WED 12:00PM 2:15PM L1M2 EP
 MON- FRI 11:00AM 11:15AM  6 EP
 MON- SAT 8:15AM 8:30AM 15 SP
 MON- SAT 6:00PM 7:00PM 10 SP
 EVERY SAT 8:00PM 8:54PM  8 SP
 7/19 SUN 10:00AM 12:55AM 50 SP
```

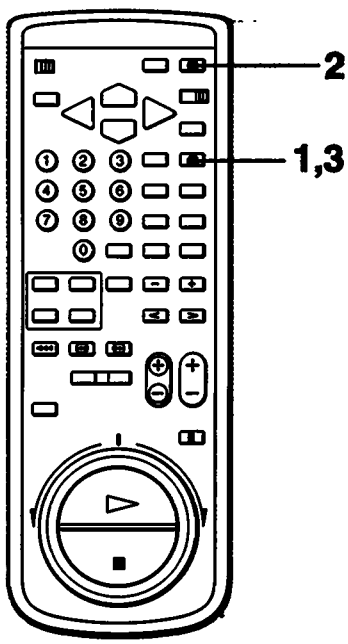
3 **To change a program, select the item to be changed by pressing ◀ or ▶, then make changes by pressing ▲ or ▼.**
To cancel it, press TIMER CLEAR.
Repeat this step to change or cancel other settings.

4 **Press EXECUTE.**
This stores the changes and returns you to the original screen.

5 **Press TIMER REC (ON/OFF).**
This returns you to the timer recording standby mode.

Using the VCR Before Timer Recording Starts

If you want to use your VCR while it's in the timer recording standby mode, you must first turn off the TIMER REC (recording) indicator in the display window. Here's how:



1 Press TIMER REC (ON/OFF).

The TIMER REC (recording) indicator in the display window turns off and the VCR leaves the timer recording standby mode.

2 Press POWER.

The VCR is ready to use.

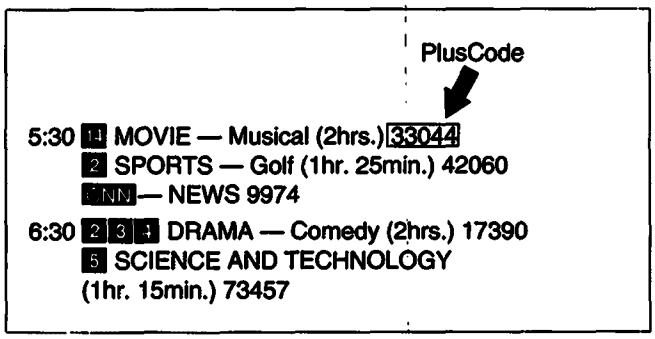
3 After using the VCR, press TIMER REC (ON/OFF).

The VCR returns to the timer recording standby mode and the TIMER REC (recording) indicator lights up.

Introducing VCR Plus+

VCR Plus+ is a new feature used in Sony VCRs that simplifies the task of programming your VCR to make unattended recordings. Here's how it works:

Whenever you want to record a TV program, all you need to do is to look up the program's "PlusCode", a number assigned to each program that's published in the TV section of most newspapers, cable TV listings, and even *TV Guide* magazine.



Then, just enter the number of the program you want — using the Remote Commander — and the VCR is automatically programmed to record that show. It's that simple. With VCR Plus+, you no longer have to go through a lengthy and often repetitive procedure when you set start and stop times, channel numbers, and dates. All this information is automatically sent to your VCR when you enter the program's PlusCode!

Of course, there's some setup you'll need to do before you use VCR Plus+ for the first time. But after this initial setup, just think of how much easier it'll be to record your favorite TV programs, cable movies, and sporting events—all with the touch of a few buttons. VCR Plus+ makes programming your VCR easier than ever!

NOTE:
If PlusCodes aren't yet available in your area, they'll probably be introduced soon. Check with your local newspaper or cable TV company for details.

VCR Plus+ Setup Instructions

Setting up your VCR to use VCR Plus+ involves coordinating the TV channel number (the number you turn to on your TV or VCR to watch a program) with the guide channel (the number that's assigned to that channel in your program guide).

If you don't have cable TV (i.e., if your TV receives its signal from an antenna only), the TV channel number and the guide channel number will probably be the same, in which case you'll only have to check that the two numbers match. For numbers that don't match, you must first perform the procedures that follow to get these channel numbers synchronized with each other.

To get the guide channel numbers, find the Channel Line-up Chart in the program guide for your area that features VCR PlusCodes. It usually looks like the example to the right.

If you have cable TV, you should then get the TV channel numbers for each channel from your cable company. (You may already know them.) Then **for channel numbers that are different,** enter the program guide channels (from the Program Guide), on the left, and the actual TV channels (from your cable system), on the right, as shown on page 44.

Example of "Channel Line-up Chart"

CABLE TV		Guide channel number
A&E	Arts & Entertainment Network	39
AMC	American Movie Classics	35
BRV	Bravo (program grids only)	54
CNN	Cable News Network	42
CSP	C-SPAN	28
DIS	The Disney Channel	53
DSC	The Discovery Channel	37
ESN	ESPN	34
FAM	The Family Channel	47
HBO	Home Box Office	33
LIF	Lifetime	46
MAX	Cinemax	45
MSG	Madison Square Garden Network	19
MTV	Music Television	48
NIK	Nickelodeon	38
SC	Sports Channel	59
SCA	Sports Channel America	70
SHO	Showtime	41
TBS	TBS SuperStation	43
TMC	The Movie Channel	58
TNN	The Nashville Network	49
TNT	Turner Network Television	52
USA	USA Network	44

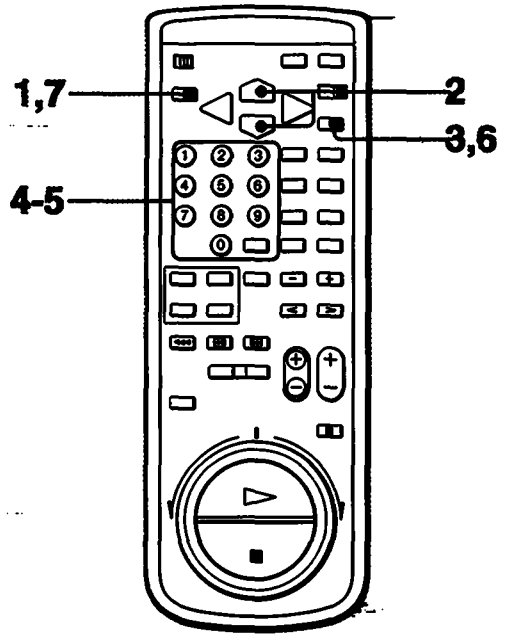
SAMPLE

For each channel your VCR receives, use the Channel Line-Up Chart to check that the channel numbers match. For example, if HBO is listed in the Channel Line-Up Chart on channel 33, and your VCR receives HBO on channel 15, you need to coordinate these numbers using the following procedures. For channels in which the numbers are the same (for example, if your VCR receives HBO on channel 33, and the guide channel number is 33), you can skip these procedures.

Example:

Guide Channel (from "Channel Line-Up Chart" in your program guide)	TV Channel (channel you actually use on your VCR)
33 (Home Box Office)	15

Use ▲ and ▼ to move the cursor.
Use ◀ and ▶ to select items.



1 Press MENU.

The main MENU appears.

```
MENU

▶ TIMER SET/CHECK
  SET UP MENU
  TUNER PRESET
  SET VCR Plus+ CHANNELS
  CLOCK SET
```

2 Press ▼ or ▲ to move the cursor (▶) to SET VCR Plus+ CHANNELS.

```
MENU

  TIMER SET/CHECK
  SET UP MENU
  TUNER PRESET
▶ SET VCR Plus+ CHANNELS
  CLOCK SET
```

3 Press EXECUTE.

The SET VCR Plus+ CHANNELS menu appears.
The "GUIDE CH" field blinks.

```
SET VCR Plus+ CHANNELS

GUIDE CH   TV CH
  ---   -   --
```

4 In the "GUIDE CH" field, enter 33 (the number assigned to this channel in the Channel Line-Up Chart) and press ENTER.

The "TV CH" field starts to blink.

```
SET VCR Plus+ CHANNELS

GUIDE CH   TV CH
   33   -   33
```

5 In the "TV CH" field, enter 15 (the number to which you tune your VCR to watch this channel) and press ENTER.

```
SET VCR Plus+ CHANNELS

GUIDE CH   TV CH
   33   -   15
```

NOTE:
The TV Channel setting will be different whether you use cable TV or not. Please refer to "Preparation" on page 6.

6 For each channel in which the TV channel differs from the guide number, repeat steps 4 and 5, using the menus that are displayed.

To check your channel settings, press EXECUTE.

```
VCR Plus+ CHANNEL LIST
Page 1
 GUIDE  TV    GUIDE  TV
  11 - 55   I  13 - 24
  18 - 38   I  20 -  8
  21 - 11   I  29 - 15
  33 - 15   I  38 - 115
  41 - 48   I  45 - 13
```

7 When you've finished, press MENU to exit.

Recording Programs Using VCR Plus+

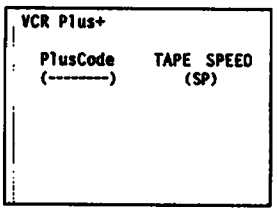
To use VCR Plus+ to record programs, all you need is the program's PlusCode, which you'll find in the program listings in your local newspaper, cable TV guide, or *TV Guide* magazine.
For example, to record the following program, just use the following procedures:

EXAMPLE: 13 **MOVIE**---Comedy (2hrs.) 53292 ← PlusCode

NOTE:
You can set the program without opening the VCR Plus+ menu. Refer to the display window on the VCR.

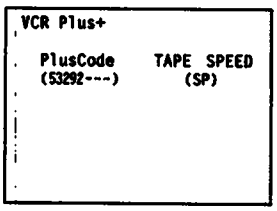
1 Press VCR Plus+.

The VCR Plus+ TIMER SET menu appears.



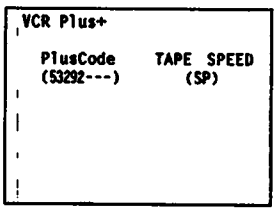
2 Enter 53292 (the program's PlusCode) in the PlusCode field.

If you make a mistake, press TIMER CLEAR and enter the PlusCode again.



3 To select the cassette's recording speed (SP or EP), press TAPE SPEED.

Unless you change the cassette speed, SP is used. See "Maximum recording time of a cassette" on page 28 for information about cassette speeds.

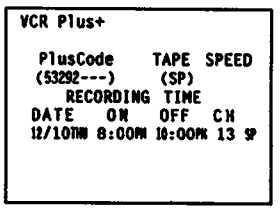


4 Press ONCE, DAILY, or WEEKLY on the Remote Commander.

See the following chart for details of these options.

ONCE:	Records scheduled programs one time only.
WEEKLY:	Records every week at the same scheduled time.
DAILY M-F:	Records Monday to Friday at the same scheduled time.

The VCR Plus+ menu displays the recording information: date, program start and stop times, channel number, and tape speed.
If you make a mistake, press TIMER CLEAR, and start from the beginning.



5 If you want to set another program, repeat steps 2 to 5.

6 Insert a cassette into your VCR.

7 Press TIMER REC (ON/OFF) to set the VCR's recording timer.

The VCR enters the timer recording standby mode. Your VCR is now set up to record the programs you've selected. The VCR will turn on automatically, record the program, and then turn off until the next programmed show is ready for broadcast.

For checking , changing , cancelling the settings, see pages 40 and 41.

NOTES:
You can't set the timer using PlusCodes in the following cases:

- When the VCR is turned off
- While the VCR is timer-recording or quick-timer recording mode
- When the VCR is in the timer-recording standby mode

The timer will not accept the following settings:

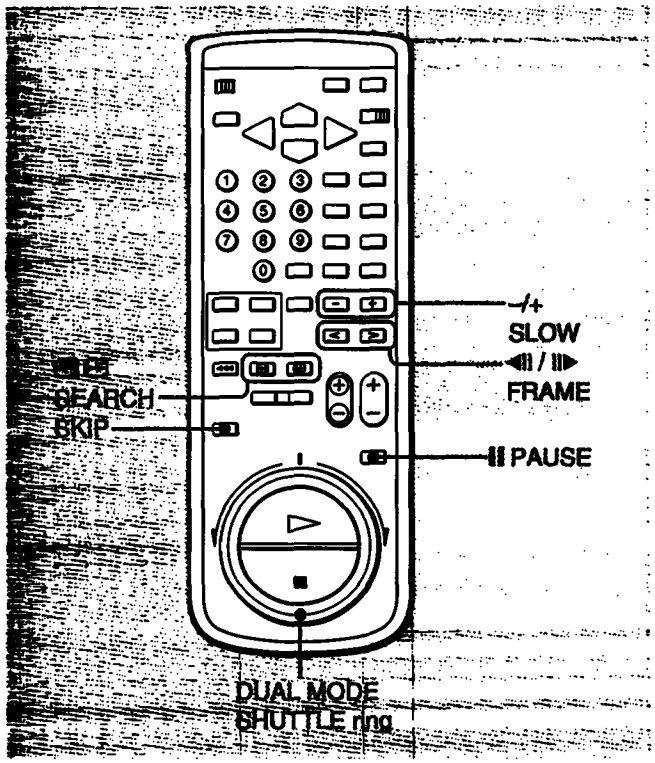
- When you select DAILY for a Saturday and Sunday program
- When you select WEEKLY or DAILY for a program more than seven days ahead. (The WEEKLY and DAILY settings only work for the current week.)
- When you enter a program's PlusCode that has already ended

Variable Speed Playback

The following section explains the advanced playback functions you can do with your VCR.

Variable Speed Playback

Using the DUAL MODE SHUTTLE ring on your VCR or Remote Commander, you can play cassettes at a variety of forward and reverse speeds. You can also freeze a picture using the pause function.



Still Picture

When playing back a cassette, press II PAUSE to hold the picture in one place. To resume normal playback, press either ▷ PLAY or II PAUSE. If you leave your VCR in the pause mode, normal playback resumes after approximately 5 minutes.

Picture Search

By turning the DUAL MODE SHUTTLE ring either clockwise for forward viewing or counterclockwise for viewing in reverse, you can control the cassette playback speed.

- **Picture Search During Playback or Pause Modes**

While playing or pausing a cassette, turn the DUAL MODE SHUTTLE ring until the double arrows ◀◀ or ▶▶ appear in the display window.
A high-speed picture without sound displays on the screen until you release the ring.

When you release the DUAL MODE SHUTTLE ring, it returns to its original position.
If you release the ring while in the pause mode, the picture returns to pause. If you release it during playback, the picture returns to playback.

> **NOTE:**
> If you quick search a cassette recorded in the LP cassette speed, your picture may change to black and white, depending on the TV you're using.

- **Picture Search While Fast-Forwarding or Rewinding a Cassette**

When fast-forwarding or rewinding a cassette, turn the DUAL MODE SHUTTLE ring to preview a high-speed picture (clockwise for forward viewing or counterclockwise for reverse viewing).

When you release the ring, it returns to its original position and the VCR continues fast-forwarding or rewinding.

Locked Picture Search

This feature lets you lock in and view a high-speed picture while playing or pausing a cassette. In the play or pause mode, press ⏪ SEARCH (reverse) or ⏩ SEARCH (forward) on the Remote Commander.
To resume normal playback, press ▷ PLAY.

Skip Playback

While playing a cassette, press SKIP on the Remote Commander.
This feature lets you view your cassette at high speed for about 30 seconds before resuming normal playback.

Slow Motion Playback

During playback or playback pause mode, press I► SLOW + or – on the Remote Commander. Change the slow motion speed with the + or – buttons.
Press + to increase the playback speed, and – to decrease the playback speed.

Frame-by-Frame Picture

During the playback pause mode, press FRAME II► > to advance the picture one frame or ◄II < FRAME to reverse the picture one frame.
Each time you press the button, the picture moves one frame. To resume normal playback, press ▷ PLAY.

Picture Adjustment During Variable Speed Playback

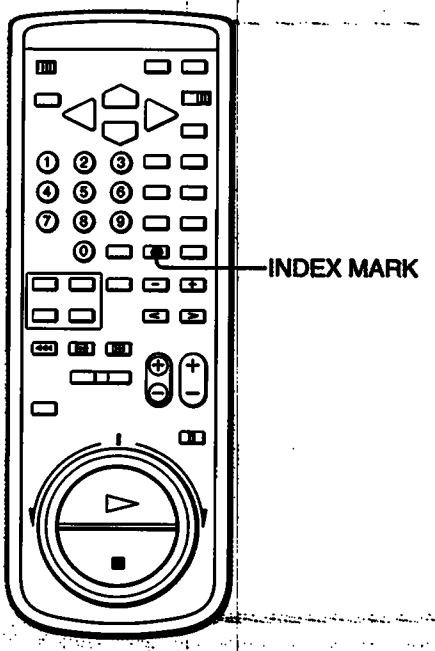
If a picture played in slow motion displays streaks or has poor sound quality, adjust the picture with the TRACKING NORMAL/SLOW and STILL ADJUST ▼/▲ buttons inside the front panel. You can adjust the picture more easily by changing the speed closer to normal playback by pressing I► SLOW +.
If the picture appears to shake in the still mode, adjust it using the STILL ADJUST ▼/▲ buttons inside the front panel until the picture stabilizes.
When pausing a cassette, you may notice a band at the top or bottom of the screen. Adjust the picture by playing back the cassette in slow motion and using the TRACKING NORMAL/SLOW and STILL ADJUST ▼/▲ buttons located inside the VCR's front panel.

NOTE:
Some snow or streaks are unavoidable when playing back a cassette in the reverse or reverse slow modes.

Index Function

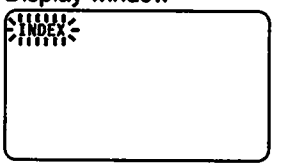
You can find specific locations on a cassette using your VCR's index function.

Marking Index Signals

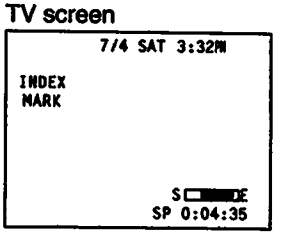


Whenever you mark an index, an index signal flashes in the VCR's display window and the INDEX MARK indicator appears on your TV screen.

Display window



TV screen



Automatic Index Mark

An index signal automatically marks the beginning of a program when you start recording it.

Manual Index Mark

When recording or playing a cassette, you can manually mark an index signal by pressing INDEX MARK on the Remote Commander.

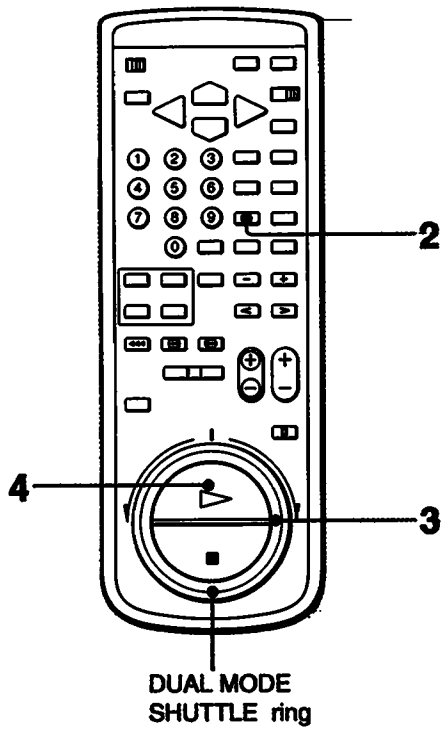
NOTES:

- When marking index signals, leave an interval of at least 2 minutes between them so that the VCR can detect the signals correctly.
- When you mark an index signal during playback, the recorded sound, though not erased, is inaudible.
- You cannot mark an index signal in the following cases:

— On a cassette without a safety tab.
— On an unrecorded portion of a cassette.
— Immediately before a point on the cassette where the cassette speed (EP or SP) changes.
— When playing a cassette recorded in LP mode.

Playing Back from the Index Point — Index Scan

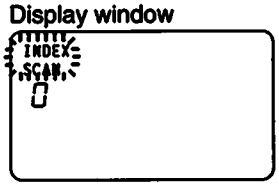
Here's how to find and play a program you've marked with an index signal:



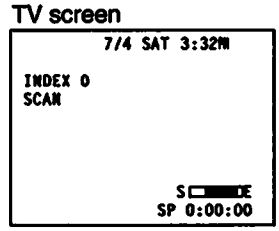
1 Insert an indexed cassette into your VCR.

2 Press INDEX once.
The INDEX and SCAN indicators flash alternately in the display window.

Display window

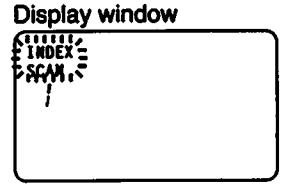


TV screen

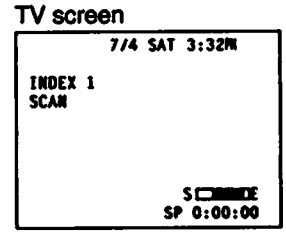


3 Turn the DUAL MODE SHUTTLE ring clockwise to find the previous program, or counter clockwise to find the next program.
The INDEX SCAN indicator flashes continuously while scanning.
The index scan locates the next marked index signal and plays about 10 seconds of tape prior to the signal. The VCR then rewinds or advances to the next index signal. Every time the VCR finds an index signal, playback begins and the displayed index number increases.

Display window



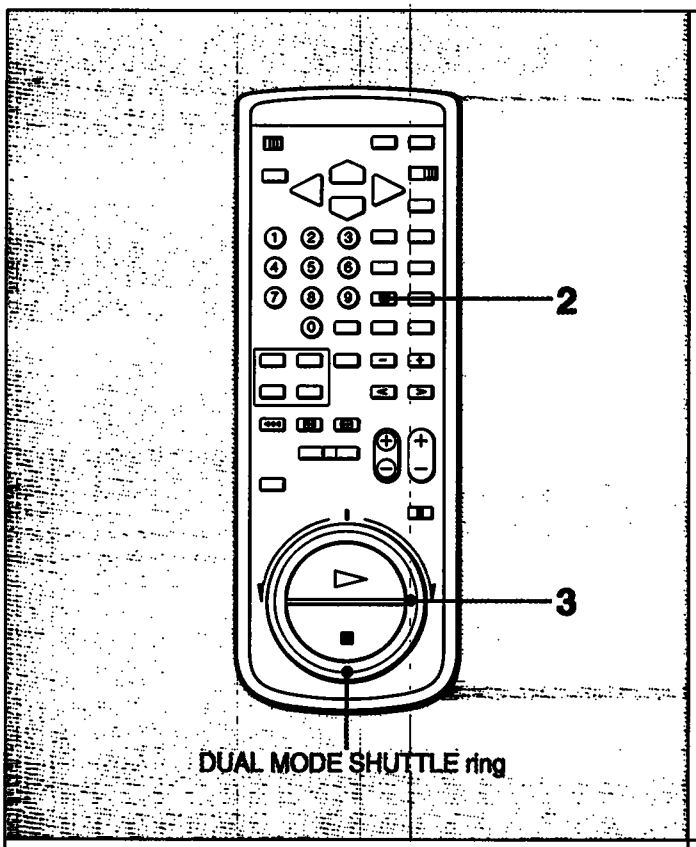
TV screen



4 When you find the program you want, press ▷ PLAY.
Playback starts from that point.

Locating an Index — Index Search

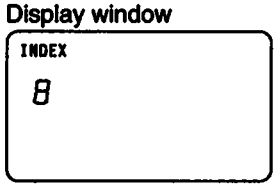
Locate an index by indicating how many index signals ahead or behind that program is from the cassette's current position. Here's how:



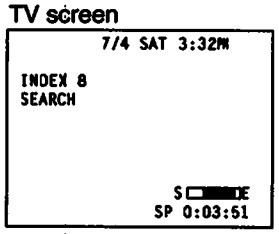
1 Insert an indexed cassette into your VCR.

2 Press INDEX until the index number for the desired program appears in the display window or on your TV screen.
The VCR exits from the index mode, if you pass index number 19.

Display window

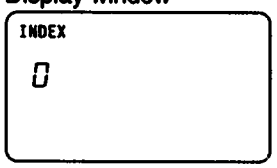


TV screen

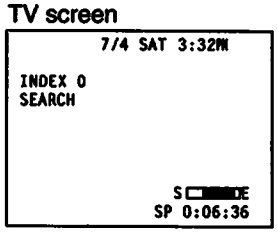


3 Turn the DUAL MODE SHUTTLE ring clockwise to locate an upcoming index signal or counterclockwise for a prior index signal.
The cassette rewinds or advances to the next index. Each time an index signal is detected, the index number decreases. When the number reaches 0, your VCR will begin to play.

Display window

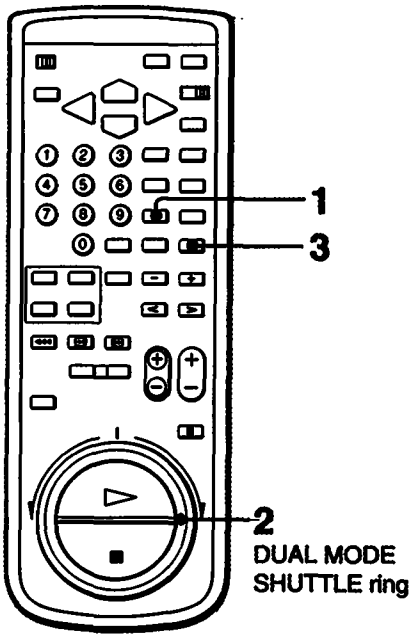


TV screen



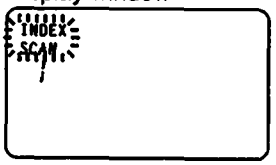
Erasing Index Signals

To remove any unwanted index signals, follow these steps:

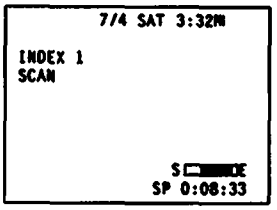


2 Turn the DUAL MODE SHUTTLE ring until the index you want to erase appears on your TV screen.
Each time an index is detected, the VCR plays back the indexed program for approximately 10 seconds. It then rewinds or advances to the next index signal. This 10 second preview lets you decide whether you've located the program you wish to erase.

Display window

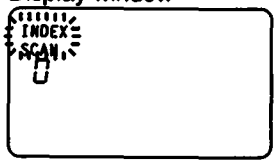


TV screen

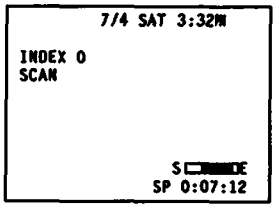


1 Press INDEX once.
The INDEX and SCAN indicators flash alternately in the display window.

Display window



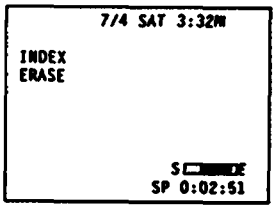
TV screen



3 Press INDEX ERASE during 10 second preview.
The INDEX indicator flashes.

Display window

TV screen



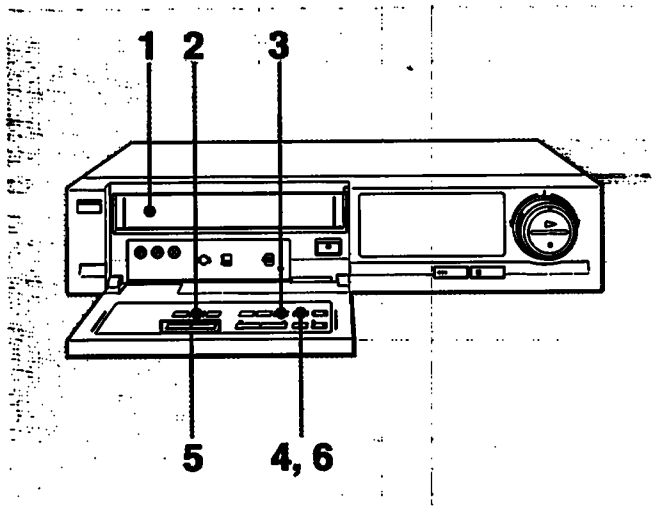
NOTES:
- While the index signal is being erased, the sound is inaudible.
- Index signals marked just before or after a change to the SP or EP recording mode cannot be erased.
- Index signals marked on a cassette recorded in LP mode cannot be erased.
- Index signals marked on the beginning of the tape may not be erased.

Quick-Timer Recording

This function is convenient for recording programs without going through the entire timer setting procedure. Note, however, that it provides only an approximate setting for the program you wish to record.

NOTE:
Before you begin, make sure the clock has been set, then ensure that the timer recording function is turned off by checking the TIMER REC (recording) indicator. If the indicator is lit, press TIMER REC ON/OFF to turn it off.

Quick-Timer Recording



If you're currently recording, skip to step 7.

1 **Insert a cassette into your VCR.**

2 **Press INPUT SELECT to light the TUNER in the display window.**

3 **Select the desired recording speed (SP or EP) by pressing TAPE SPEED inside the front panel.**

4 **Press QUICK TIMER on the VCR.**
If you insert a cassette without its safety tab, your VCR will eject the cassette.

5 **Select the channel you wish to record using the CHANNEL +/– or channel number buttons. Press ENTER while the channel display flashes.**

6 **Press QUICK TIMER again to start recording.**

7 **Select the recording duration by pressing QUICK TIMER to change the duration indicator in the display window. Each time you press QUICK TIMER, the recording duration increases by 30 minutes.**
Once recording has finished, your VCR will turn off automatically.

0:00 → 0:30 → 1:00 • • • • • 8:00

To stop quick-timer recording:

To stop quick-timer recording while a program is being recorded, press TIMER REC ON/OFF.

NOTES:

- If your cassette ends during quick-timer recording, recording stops and the VCR turns off. The cassette will not rewind automatically.
- If a power interruption occurs during quick-timer recording, recording will stop and your VCR will turn off. If the interruption lasts less than three hours and the power is restored before the recording end time, recording will start again from that point.

Buttons Operable During Quick-Timer Recording

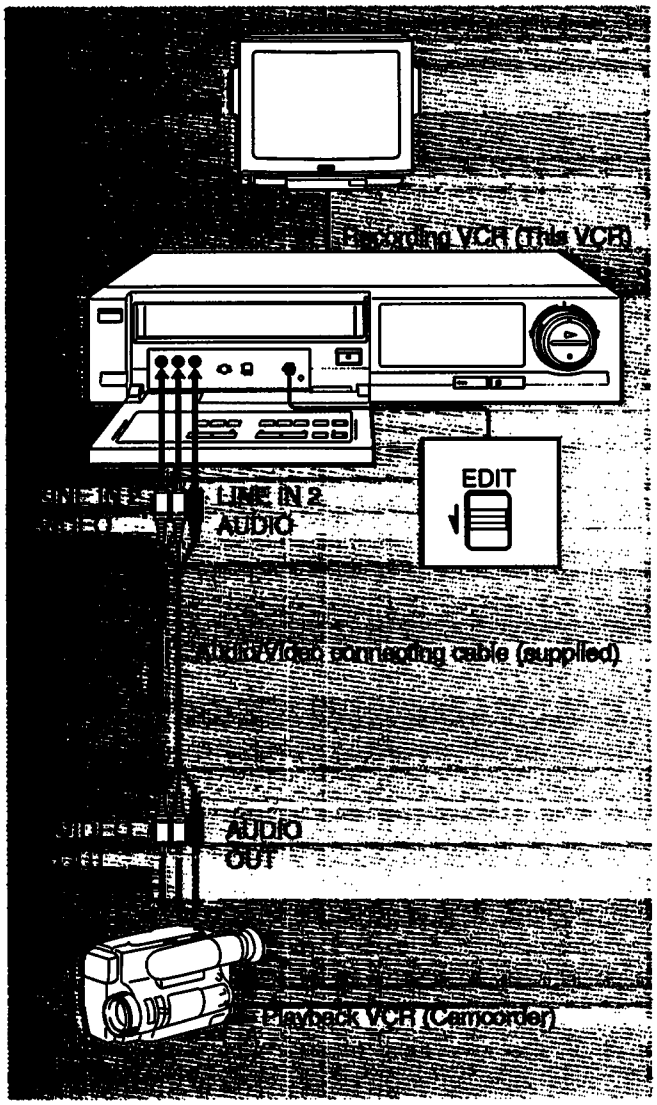
TIMER REC (ON/OFF)	To stop quick-timer recording
QUICK-TIMER	To change recording duration
COUNTER RESET	To reset the counter to zero
INDEX MARK	To record an index signal
TV/VTR	To watch the picture broadcast on another channel (TV)
MENU	Only operable to check the timer recording settings. (See "Checking the Timer Settings," on page 40.)

Editing

Using an additional VCR, you can record programs from one VCR to the other. Here's how:

Editing from Another VCR

Here's how to edit from another VCR (such as an 8mm video camera recorder for playback) when using this VCR for recording.



Before you start:

- Select LINE 1 or LINE 2 with INPUT SELECT, whichever the playback VCR is connected to.
- Select SP or EP with TAPE SPEED.
- Select EDIT position to light the EDIT indicator in the display window.

NOTE:
If your playback VCR has an editing function, select it to reduce static and improve reception.

How to edit:

1 **Insert a blank cassette into the recording VCR.**

2 **Turn on the playback VCR and insert a source cassette.**

3 **Locate the playback start point and select the playback pause mode on the playback VCR.**

4 **Locate the recording start point and select the recording pause mode on the recording VCR.**

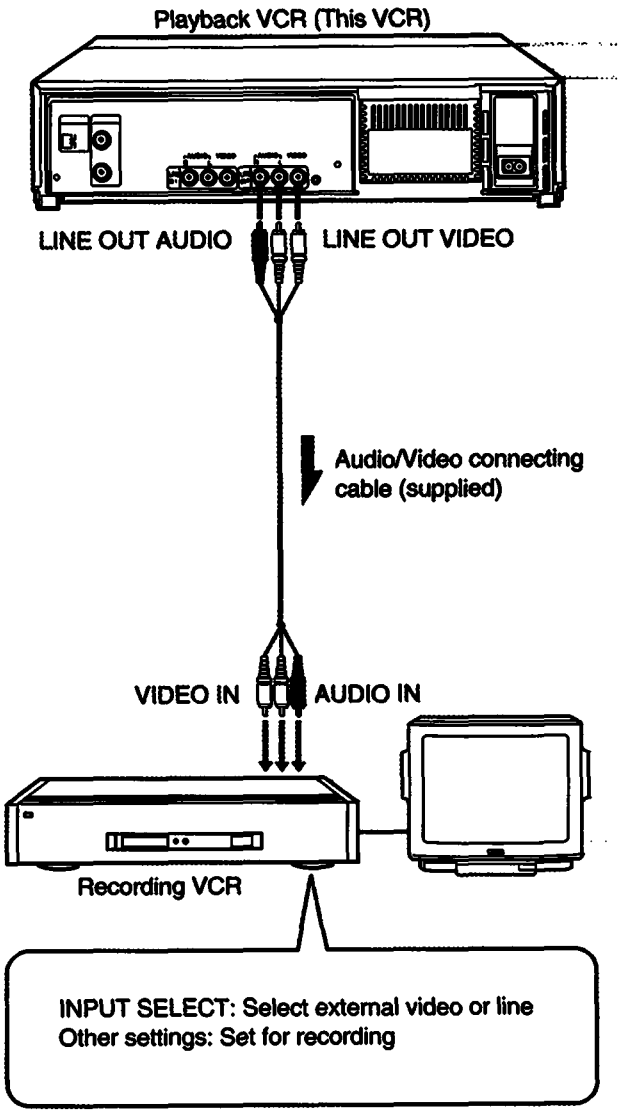
5 **Press II PAUSE on both VCRs.**
For best results, press II PAUSE on the playback VCR just before pressing II PAUSE on the recording VCR. When you've finished editing, press ■ STOP on both VCRs.

NOTES:

- If your playback VCR is a stereo unit, make connections with the supplied audio/video connecting cable.
- If your playback VCR is a monaural unit, connect the white plug to LINE IN 2 AUDIO L on this VCR. This lets you record the sound of the playback VCR on both channels of this VCR. Do not connect the white plug to LINE IN 2 AUDIO R.
- When connecting the VCRs, do not connect both LINE IN and LINE OUT jacks on your VCRs simultaneously. Doing so may cause a humming noise.

Editing onto Another VCR

Here's how to use this VCR as the playback VCR and another VCR as the recording VCR.



Before you start:

- **Select EDIT position to light the EDIT indicator in the display window.**
  If your recording VCR has an editing function, it should also be selected to improve reception.
- **Press DATA SCREEN to delete the on-screen display.**

How to edit:

1 **Turn on the recording VCR and insert a blank cassette.**

2 **Insert a source cassette into the playback VCR.**

3 **Locate the playback start point and select the play back pause mode on the playback VCR.**

4 **Locate the recording start point and select the recording pause mode on the recording VCR.**

5 **Press II PAUSE on both VCRs.**
For best results, press II PAUSE on the playback VCR just before pressing II PAUSE on the recording VCR. When you've finished editing, press ■ STOP on both VCRs.

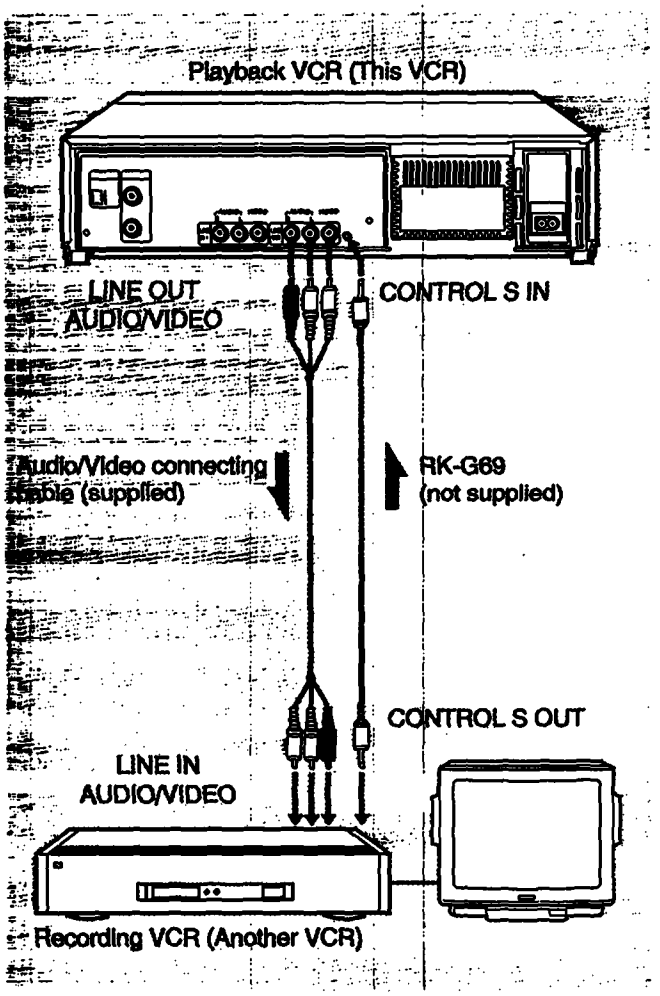
NOTES:

- If your recording VCR is a stereo unit, make connections with the supplied audio/video connecting cable.
- If your recording VCR is a monaural unit, make connections using the VMC-910MS/920MS cable (not supplied).
- When connecting the VCRs, do not connect both LINE IN and LINE OUT jacks on your VCRs simultaneously. Doing so may cause a humming noise.

Synchronized Editing onto Another VCR

Synchronized editing is the process of recording and editing a program from either a video camera recorder or a VCR to another VCR. Because this editing function involves one VCR controlling another VCR or video camera recorder, it is said to be "synchronized".

The following illustration shows you how to use this VCR for playback and either a Sony VHS VCR or certain 8mm VCRs having a Control S OUT terminal and synchro edit function for recording.



Before you start:

- Select external video or LINE on recording VCR.
- Make necessary settings for recording.

How to edit:

1 **Turn on the recording VCR and insert a blank cassette.**

2 **Insert a source cassette into the playback VCR.**

3 **Select EDIT position to light the EDIT indicator in the display window.**
If your recording VCR has an editing function, it should also be selected.

4 **Locate the edit start point and select the recording pause mode on the recording VCR.**

5 **Locate the playback start point and select the playback pause mode on the playback VCR.**

6 **Press SYNCHRO EDIT on the recording VCR.**
Both recording and playback will start.

7 **At the desired edit end point, press SYNCHRO EDIT on the recording VCR.**
The recording VCR enters the recording pause mode and the playback VCR enters the playback pause mode.

8 **To edit the next scene, repeat steps 5, 6, and 7.**
When you've finished editing, press ■ STOP on both VCRs.

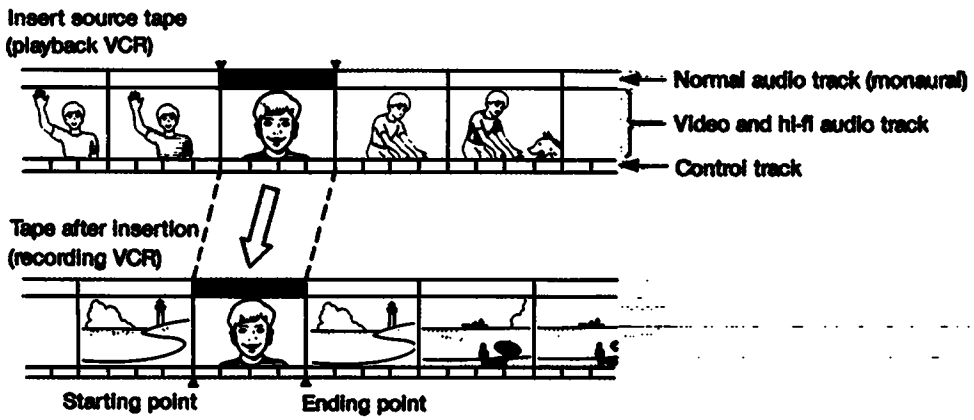
NOTES:

- If your recording VCR is a monaural unit, make connections using the VMC-910MS/920MS cable (not supplied).
- When connecting the VCRs, do not connect both LINE IN and LINE OUT jacks on your VCRs simultaneously. Doing so may cause a humming noise.

Insert Editing (for SLV-696HF only)

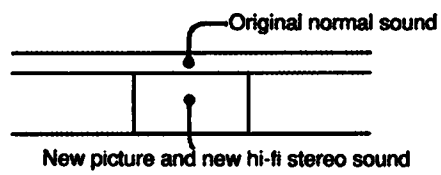
When you want to replace one prerecorded scene (and its sound) with another, you can use your SLV-696HF's insert editing function. This function lets you make either video inserts, audio inserts, or both video and audio inserts.

How the Insert Editing Function Works



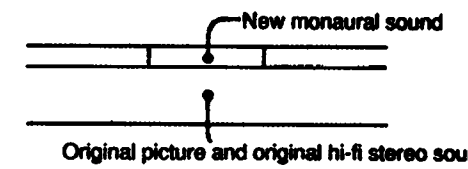
Video Insert

You can insert a new picture and hi-fi stereo sound from a video and hi-fi audio track onto a prerecorded cassette. Note that the original audio track is retained.



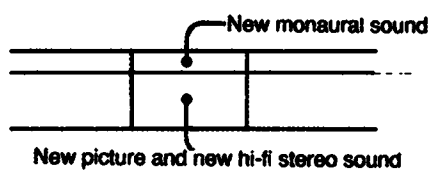
Audio Insert

You can insert a monaural soundtrack onto a prerecorded cassette. The picture and hi-fi stereo sound of the video and hi-fi audio track are retained.

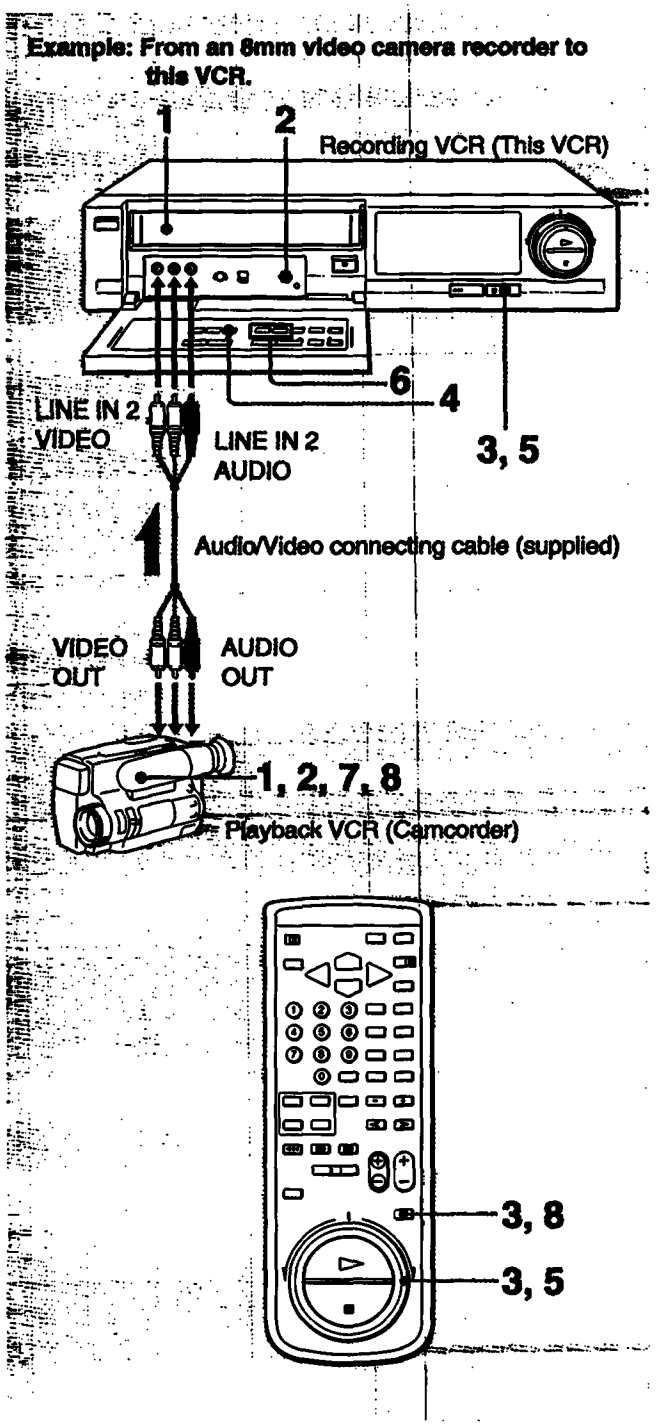


Video and Audio Insert

You can insert a new picture, hi-fi stereo sound, and a new monaural sound onto a prerecorded cassette.



Insert Editing from another VCR



Before you start:

- For connection, see pages 55 through 56. (The CONTROL S connections are not needed.)
- Select the insert source from the equipment connected to LINE IN 1 or 2.
- Connect the VCR to an audio system for "audio insert."

How to edit:

1 **Insert a source cassette into the playback VCR and a cassette for recording into this VCR.**

2 **Select EDIT position to light the EDIT indicator in the display window.**
If your playback VCR has an editing function, it should also be selected.

3 **On the recording VCR locate the edit end point, then press II PAUSE on this VCR.**

4 **Press COUNTER RESET on the recording VCR.**

5 **On the recording VCR, rewind the cassette to locate the starting point and set the VCR to the playback pause mode.**
The DUAL MODE SHUTTLE ring is useful for locating a desired starting point.

6 **Press VIDEO/AUDIO INSERT.**
For audio insert, press AUDIO. The "A INSERT" lights in the display window.
For video insert, press VIDEO. The "V INSERT" lights in the display window.
For audio and video insert, press the AUDIO and then VIDEO. The "AV INSERT" lights in the display window.

7 **On the playback VCR, locate the starting point where you want to start the insertion and set the VCR to the playback pause mode.**

8 **Press II PAUSE on both VCRs to start the insertion.**
At the ending point (0H00M00S), the insertion stops automatically. (To stop playback, press ■ STOP.)

To stop the insertion temporarily:
Press II PAUSE.

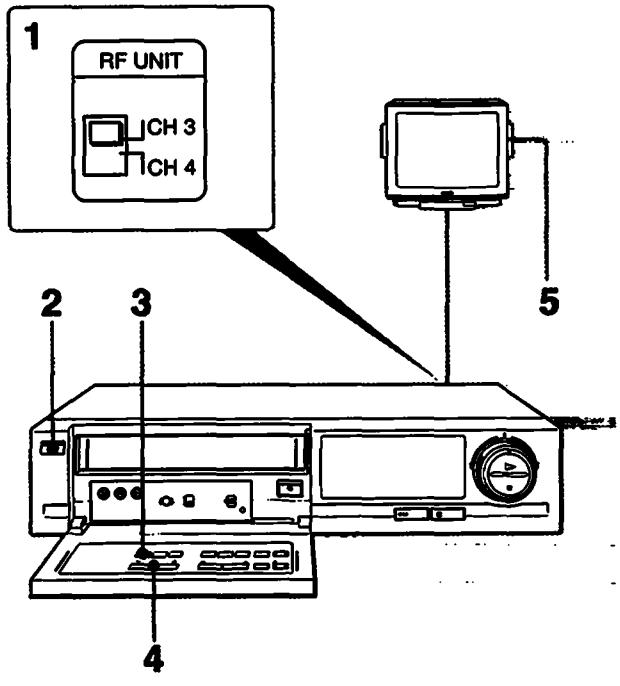
To stop ongoing insertion:
Press ■ STOP.

NOTES:

- The video/audio inserts cannot be made onto an unrecorded portion of a cassette.
- After the insertion, the previous picture and/or sound will be erased.

General Setup Information

Setting the RF Unit



Why this setting is necessary:

You must set the RF UNIT selector at the rear of the VCR properly so that your TV can receive the correct signal from the VCR. Set the selector to CH 3 (Ch 3) or CH 4 (Ch 4), whichever is not active in your area.

If you connect a TV or color monitor equipped with A/V input jacks, skip this adjustment.

1 **Set the RF UNIT at the rear of the VCR to CH 3 or CH 4, whichever is not active in your area.**

2 **Press POWER.**

The power indicator lights up in the display window.

3 **Press TV/VTR.**

The VTR indicator lights up in the display window.

4 **Check that the TUNER indicator appears in the display window, then select an active channel in your area by pressing CHANNEL +/–.**

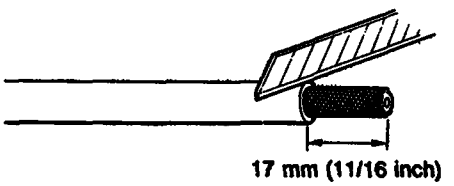
5 **Turn on your TV and set it to the channel you selected in step 1.**

Your TV is now tuned to the VCR. Whenever you use the VCR, set the TV to the preselected channel.

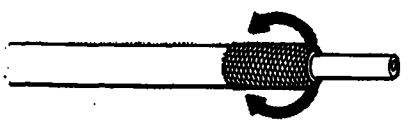
NOTE:
For details on adjusting TV channels, see your TV instruction manual.

Attaching the F-type Connector (not supplied)

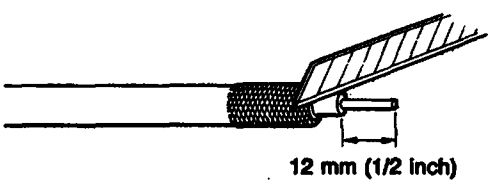
1 Strip 17 mm (11/16") of the black polyvinyl jacket.



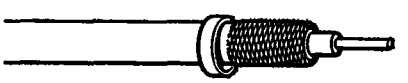
2 Fold back the woven wire.



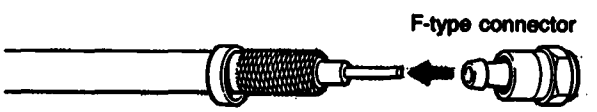
3 Strip 12 mm (1/2") of the white plastic casing, leaving 12 mm of the center conductor.



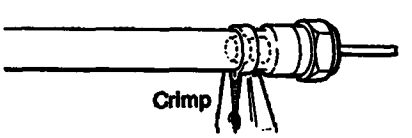
4 Slip the crimping ring over the cable.



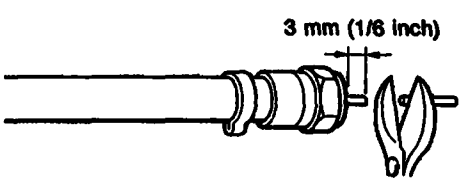
5 Insert the inner conductor into the F-type connector shaft and push the end of the cable into the connector as far as it will go.



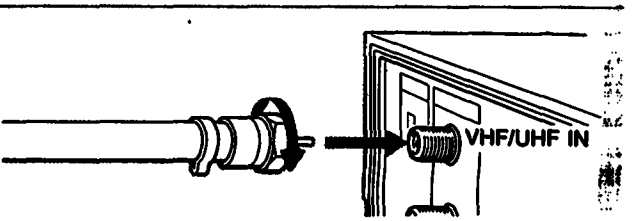
6 Slide the crimping ring over this assembly. Pinch the crimping ring with pliers to hold the connection in place.



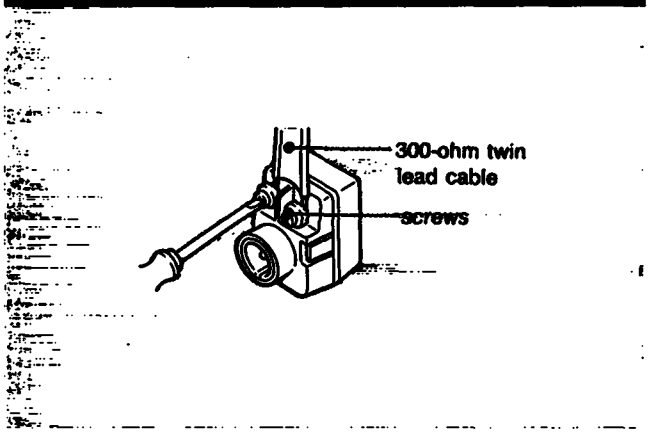
7 Cut the center conductor leaving 3 mm (1/6") from the end.



8 Insert the F-type connector into VHF/UHF IN plug on the VCR.



Attaching the External Antenna Connector (supplied)

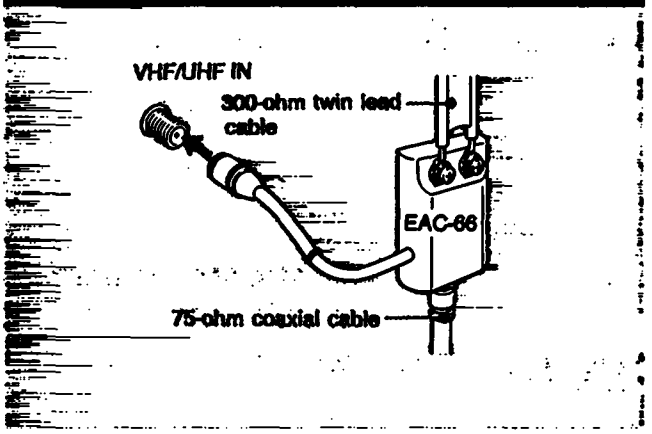


1 **Loosen the screws on the antenna connector.**

2 **Fit the 300-ohm twin lead cable on the UHF antenna under the screws on the antenna connector.**

3 **Retighten the screws.**

Attaching the EAC66 U/V Band Separator / Mixer (not supplied)



1 **Loosen the screws on the U/V band separator/mixer.**

2 **Fit the 300-ohm twin lead cable on the UHF antenna under the screws.**

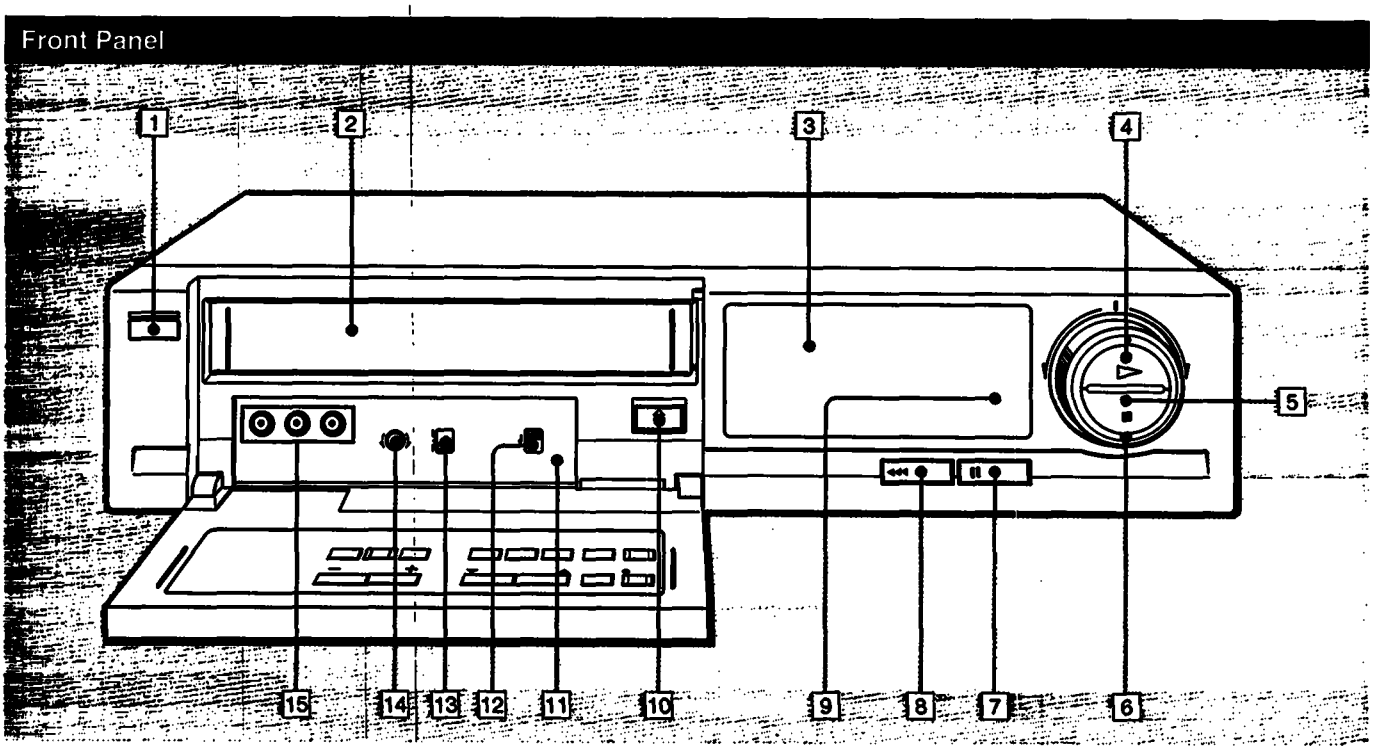
3 **Connect the 75-ohm coaxial cable to the U/V band separator/mixer.**

4 **Connect the U/V band separator/mixer to the VHF/UHF IN plug on the VCR.**

Identifying the Parts and Controls

Refer to the pages indicated for details.

Front Panel



1 POWER ON/OFF switch and indicator (page 60)

2 Cassette compartment

3 Display window and function mode display (page 66)

4 ▷ PLAY button (page 29)

5 ■ STOP button (page 29)

6 DUAL MODE SHUTTLE ring

7 II PAUSE button (page 47)

8 ◀◀◀ HI-SPEED REWIND button (page 29)

9 Remote Sensor

10 ⏏ EJECT button (page 28)

11 CL (clear) button (page 70)

12 EDIT selector (page 55)

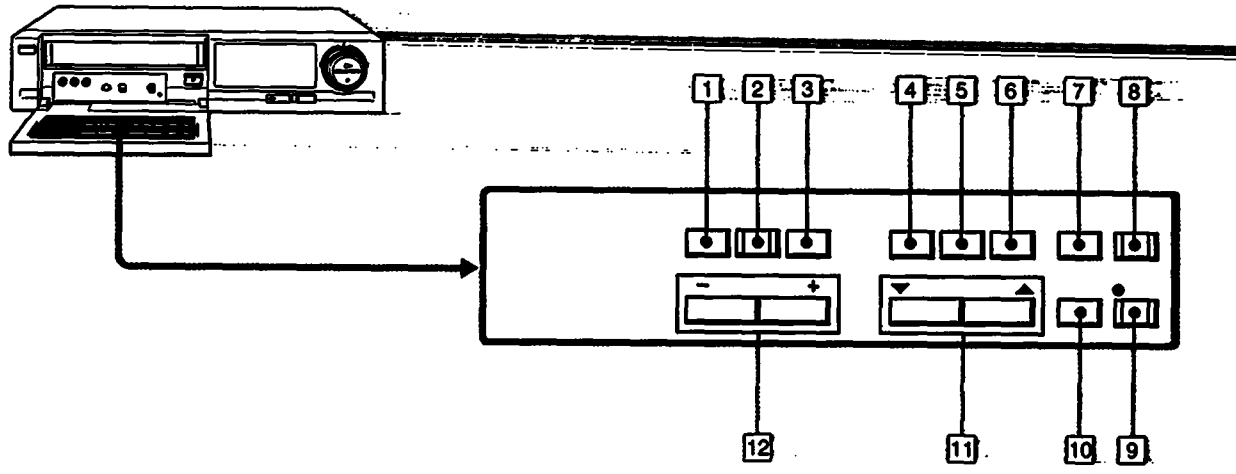
13 COMMAND MODE VTR1/VTR2/VTR3 selector (page 17)

14 SHARPNESS SOFT/SHARP control (page 29)

15 LINE IN 2 VIDEO and AUDIO jacks (phono type) (page 55)

Refer to the pages indicated for details.

Inside of Front Panel



1 TV/VTR button (page 60)

2 INPUT SELECT button (page 33)

3 COUNTER RESET button (page 30)

4 VIDEO INSERT button (SLV-696HF only) (pages 58, 59)

5 AUDIO INSERT button (SLV-696HF only) (pages 58, 59)

6 TAPE SPEED (SP/EP) button (page 33)

7 QUICK TIMER button (page 53)

8 TIMER REC ON/OFF button (page 38)

9 REC button (page 33)

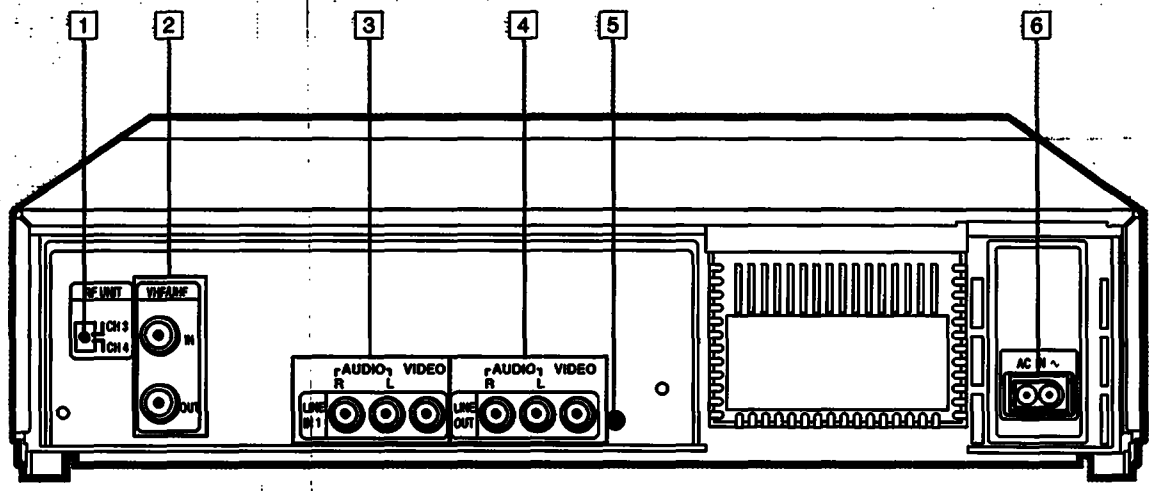
10 TRACKING AUTO/MANUAL button (page 31)

11 TRACKING NORMAL/SLOW and STILL ADJUST button (page 31)

12 CHANNEL +/– buttons (page 33)

Refer to the pages indicated for details.

Rear Panel



1 RF UNIT selector (page 60)

2 VHF/UHF IN/OUT connectors (F-type) (pages 8 to 14)

3 LINE IN 1 AUDIO and VIDEO jacks (phono type)

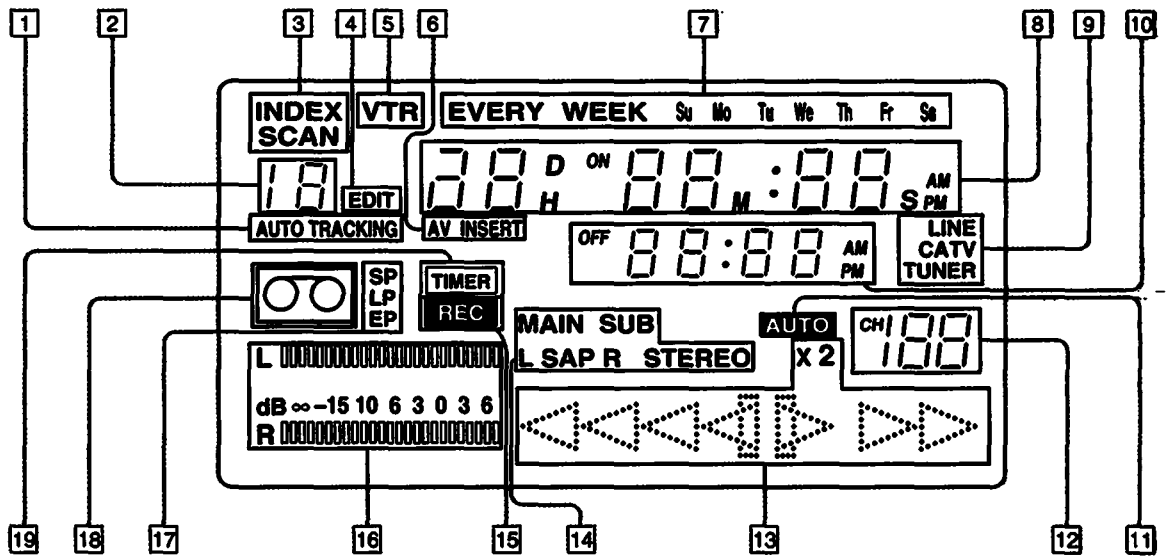
4 LINE OUT AUDIO and VIDEO jacks (phono type) (page 7)

5 CONTROL S IN jack (mini-type) (page 57)

6 AC IN socket (page 6)

Refer to the pages indicated for details.

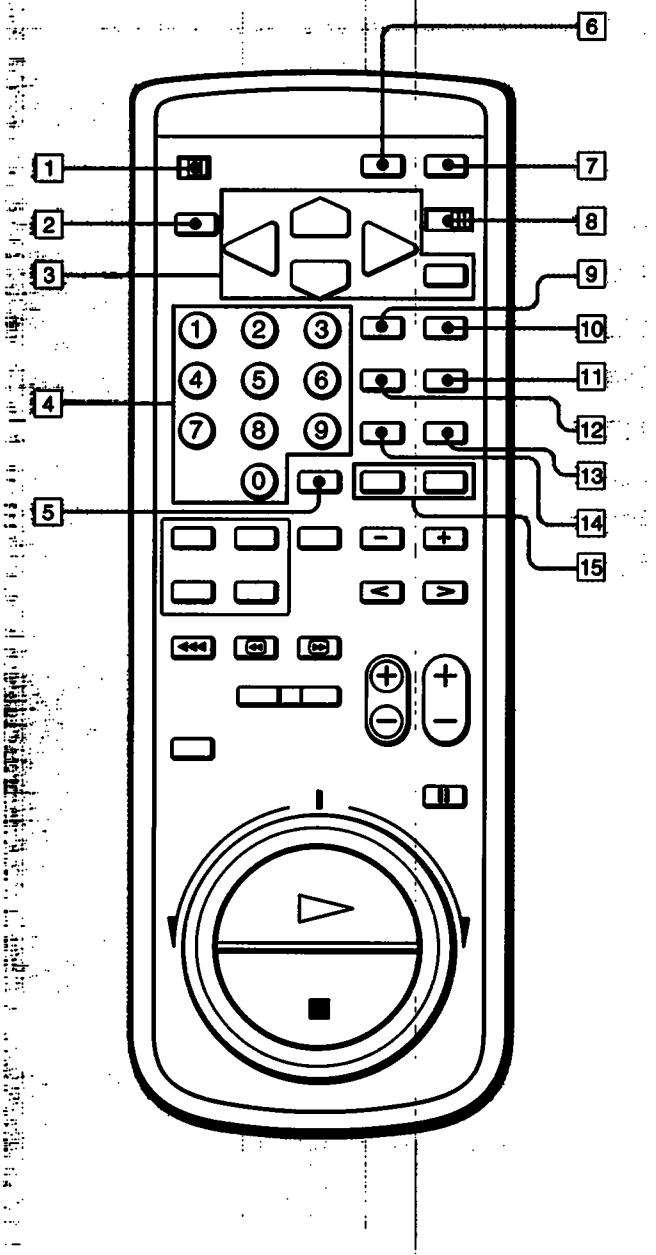
Display Window Indicators



1. AUTO TRACKING indicator (page 31)
2. Index number and timer program number for VCR Plus+ indicator (page 50)
3. INDEX, INDEX SCAN indicator (pages 49, 50)
4. EDIT indicator (page 55)
5. VTR indicator (page 33)
6. AV INSERT indicator (SLV-696HF only) (page 59)
   "A INSERT" lights for audio insert.
   "V INSERT" lights for video insert.
   "AV INSERT" lights for audio and video insert.
7. Day of the week indicator, EVERY WEEK indicator for timer-activated recording (page 38)
8. Linear time counter (page 30)
9. Input mode indicator
10. Quick-timer recording time/current time (page 53)
11. AUTO indicator (page 29)
12. Channel Number/Input Mode indicator
13. Tape Operation indicator (page 29)
14. Stereo Program/SAP indicator (page 35)
15. REC (recording) indicator
16. Peak Level Meter
17. Tape Speed indicator (LP is for playback only).
18. Cassette indicator (page 28)
19. TIMER indicator

Refer to the pages indicated for details.

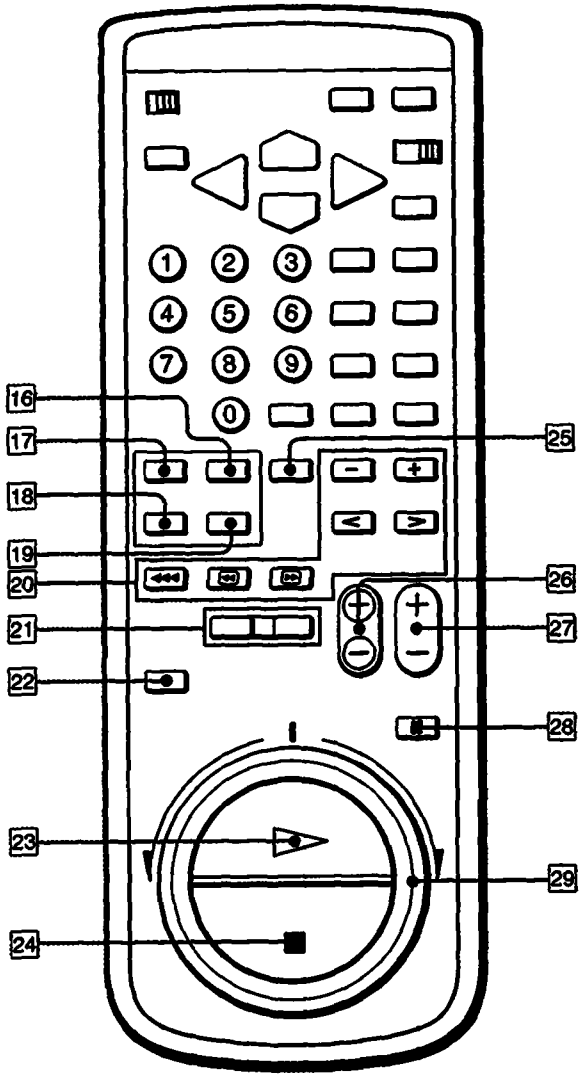
Remote Commander



1. TV/VTR Remote Control selector (page 17)
2. MENU button
3. EXECUTE button and Cursor Shift ▲/▼/◀/▶ buttons
4. Channel Number buttons (page 33)
5. ENTER button
6. TV/VTR (Antenna TV/VTR) button (page 34)
7. POWER switch (page 60)
8. COMMAND MODE 1/2/3 selector (page 17)
9. TIMER CLEAR button (page 41)
10. TIMER REC ON/OFF button (page 38)
11. INPUT SELECT button (page 33)
12. TAPE SPEED button (page 33)
13. DATA SCREEN button (page 30)
14. INDEX button (page 50)
15. INDEX MARK/ERASE buttons (pages 49, 52)

Refer to the pages indicated for details.

Remote Commander



16 ONCE button (page 45)

17 VCR Plus+ button (page 45)

18 DAILY button (page 45)

19 WEEKLY button (page 45)

20 Tape Transport buttons (pages 29, 47 to 48)
SLOW
(pressing + increases the speed; – decreases the speed)
FRAME
(frame-by-frame picture and cassette direction for slow motion playback;
⏩ forward
⏪ reverse
◀◀◀ HI-SPEED REWIND
⏪⏩ SEARCH (reverse/forward)

21 REC buttons (Press the two buttons simultaneously) (page 33)

22 SKIP button (page 48)

23 ▷ PLAY button (page 29)

24 ■ STOP button (page 29)

25 AUDIO MONITOR button (page 32)

26 CHANNEL +/– buttons (page 33)

27 VOL +/– buttons

28 II PAUSE button (page 47)

29 DUAL MODE SHUTTLE ring (pages 47 and 48)

Troubleshooting

If you have a problem with your VCR, first check the power cord connection, then go through the following list. Should the difficulty persist, unplug the unit, and contact your Sony dealer or local authorized Sony Service Center facility.

	Symptom	Possible causes and remedies
Power	The POWER switch doesn't work.	● The power cord is disconnected. ● The VCR is in the timer standby mode.
	The power is turned on but the VCR doesn't work.	● The safety device on the VCR has switched on. Turn the power off, disconnect the power cord from the wall outlet, and let the VCR rest for at least an hour before trying it again.
Time and Date Clock	The clock has stopped and "–:– –" lights up.	● There has been a power interruption. Reset the time, date and timer settings.
TV Reception	TV reception is poor.	● The channel for the VCR is not correctly tuned on the TV. ● The TV signal is weak. Adjust the direction of the antenna. ● The AC power cord of the VCR is disconnected.
Recording and Playback	Shaky and/or snowy picture during recording.	● The TV's channel is not set to the one preset for the VCR. ● The TV signal is weak. Adjust the direction of the antenna.
	No picture on the TV screen.	● Press TV/VTR so that the VTR indication appears in the display window. ● The TV channel is not set to Ch 3 or Ch 4, or the video input has not been selected on the TV or monitor.
	The VCR won't record.	● No cassette has been inserted. ● The cassette is at its end. ● INPUT SELECT is not set correctly.
	The playback picture is not clear.	● The channel for the VCR is not correctly tuned on the TV. ● A cassette recorded on another VCR is being played back. Adjust the tracking with the TRACKING NORMAL/SLOW and STILL ADJUST. ● The video heads are dirty. Clean the heads using the Sony T-25CL video head cleaning cassette. For details on cleaning, refer to the instructions furnished with the cleaning cassette. If a cleaning cassette is not available in your area, have the heads cleaned at your nearest Sony Service Center facility. (Do not use a commercially-available wet-type cleaning cassette. It may damage the video heads.) ● The video heads are worn out. ● Adjust the SHARPNESS.

	Symptom	Possible causes and remedies
Recording and Playback	The picture moves vertically during picture search mode.	• Adjust the vertical hold control on the TV or color monitor.
	The sound drops out.	• The cassette is defective. Use a new video cassette.
	Stereo recording cannot be made.	• AUTO STEREO is set to OFF in the SET UP MENU.
	Both main and SAP sounds are heard when playing back a cassette on which an MTS broadcast was recorded.	• AUDIO MIX is set to ON in the SET UP MENU.
	No sound is recorded on the normal audio track.	• NORMAL AUDIO is set to SAP in the SET UP MENU when there is no SAP broadcast.
Timer Recording	Timer setting cannot be made.	• The current time has not been preset.
	The TIMER REC (recording) indicator is not lit even though you've pressed TIMER REC (ON/OFF).	• No cassette has been inserted. • The cassette is at its end. • No setting for timer-recording has been made.
	The cassette is ejected when you press TIMER REC (ON/OFF).	• The safety tab of the cassette has been removed.
	Timer recording was not made.	• There has been a power interruption of one hour or more. • TIMER REC (ON/OFF) was not pressed.
Data Screen	The data screen does not appear on the screen.	• Press DATA SCREEN.
Others	Cassette cannot be inserted.	• A cassette has already been inserted.
	The Remote Commander cannot be operated.	• The COMMAND MODE selector has not been set correctly. Set the COMMAND MODE selector on the VCR and the Remote Commander to the same number. • The batteries are low.
	The tracking indicator does not appear on the screen.	• Press DATA SCREEN. • The recording condition of the cassette is very poor and tracking cannot be adjusted.
	A short beep sounds repeatedly and (ON SCREEN HELP) appears on the TV screen.	• An illogical operation has been tried. See the "On-Screen Help Messages" (page 71).
	The VCR does not respond when you press any button.	• The built-in microprocessor may be defective. Pressing the CL (clear) button with a pointed object such as a ballpoint pen, may fix the problem. All stored information (e.g., the clock and any preset programs) will be cleared.

On-Screen Help Messages

Please put in a cassette.	No timer recording has been set.
Please stop the tape.	VCR is recording.
Please push INPUT SELECT	The tape is rewound.
Please set the clock.	Please push TIMER REC to set timer.
Please use a cassette with a safety tab.	
Please rewind or put in a new cassette.	

Specifications

System

Format	VHS NTSC standard
Video Recording System	Rotary two-head helical scanning FM system.
Video Signal	NTSC color, EIA standards
Tape Speed	SP: 33.35 mm/s (1 3/8 inches/s) EP: 11.11 mm/s (7/16 inches/s) LP: 16.67 mm/s (11/16 inches/s) Playback only
Maximum recording/ playback time	9 h in EP mode (with T-180 tape)
Fast-forward and rewind time	Approx. 4 min. 30 s (with T-120 tape)
High-speed rewind time	Approx. 3 min. (with T-120 tape)

Tuner Section

Channel Coverage	VHF channels 2 to 13 UHF channels 14 to 69 CATV channel A-8 to A-1, A to W, W+1 to W+84
Antenna	75-ohm antenna terminal for VHF/UHF

Inputs and Outputs

LINE IN 1 and 2	VIDEO IN (phono jack) (1 each) Input signal: 1 Vp-p, 75 ohms, unbalanced, sync negative AUDIO IN (phono jack) (2 each) Input level: –7.5 dBs (0 dBs = 0.775 Vrms) Input impedance: more than 47 kilohms
LINE OUT	VIDEO OUT (phono jack) (1) Output signal: 1 Vp-p, 75 ohms, unbalanced, sync negative AUDIO OUT (phono jack) (2) Standard output: –7.5 dBs at load impedance 47 kilohms Output impedance: less than 10 kilohms
CONTROL S IN	Mini jack (1)

Timer Section

Clock	Quartz locked
Time Indication	12-hour cycle
Timer Setting	Only for recording 8 program in one month at max.
Power back-up	Built-in self-charging capacitor Back-up duration: Up to three hours at one time

General

Power requirements	120 V AC, 60 Hz
Power consumption	25 W (max.) 6 W (in standby condition)
Operating temperature	5 °C to 40 °C (41 °F to 104 °F)
Storage temperature	–20 °C to 60 °C (–4 °F to 140 °F)
Dimensions	430 x 100 x 395 mm (w/h/d) (17 x 4 x 15 3/4 inches)
Weight	6.0 kg (15 lb.)

Wireless Commander RMT-V102D (for SLV-595HF)/ V112A (for SLV-696HF)

Remote control system	Infrared control
Command mode	VTR 1/2/3 switchable
Power requirements	3 V DC, 2 size AA batteries (IEC designation R6)

Accessories Supplied

Wireless Commander RMT-V102D (for SLV-595HF)/V112A (for SLV-696HF) ..... (1)
Size AA (R6) batteries ..... (2)
75-ohm coaxial cable with F-type connectors ..... (1)
External antenna connector ..... (1)
AC power cord ..... (1)
Audio/video connecting cable (3 phono to 3 phono) ..... (1)

Design and specifications are subject to change without notice.

Index

A

Accessories supplied 72
Active channels 22
Adjusting
  FINE TUNING (see "Fine Tuning")
  picture 24
  sharpness/softness 29
  sound 31
  tracking (automatic and manual) 31
Advanced cable
  hookup 14
  VCR Plus+ channel setup 15
  VCR setup 15
AUDIO MIX mode 27
AFT (Auto fine tuning) setting 24
Alternate cable
  hookup 12
  VCR Plus+ channel setup 13
  VCR setup 13
Antenna
  hookup 8
  VCR Plus+ setup 9
  VCR setup 9
AUDIO MIX 27, 32, 70
AUDIO MONITOR 31, 32
AUTO ANT SEL (Automatic Antenna Selector) 7, 27
Audio/Video (A/V)
  Hookup 7
  Insert indicator 59, 66
  Setup & operation 7
  Connecting cable 55
AUTO STEREO 27, 70
Auto tracking indicator 31,66
Automatic index mark 49

B

Buttons
  AUDIO INSERT button 59, 64
  AUDIO MONITOR button 31, 32, 68
  Channel +/- buttons 33, 60, 64, 68
  Channel Number buttons 33, 67
  CL (clear) button 63, 70
  COUNTER RESET button 30, 38, 54, 59, 64
  DAILY button 45, 68
  DATA SCREEN button 30, 38, 56, 67
  EDIT selector 55, 56, 57, 59, 63
  EJECT button 28, 63
  ENTER button 67
  EXECUTE button 67
  FRAME button 48, 68
  HI-SPEED REWIND button 29, 63
  INDEX button 50, 52, 54, 67
  INDEX ERASE button 52, 67
  INPUT SELECT button 33, 53, 55, 64, 67, 69
  MENU button 38, 54, 67
  ONCE button 16, 45, 68
  PAUSE button 47, 55, 56, 59, 63
  PLAY button 29, 50, 63, 68
  QUICK-TIMER button 53, 54, 64
  REC buttons 33, 64, 68
  SKIP button 29, 48, 68
  SLOW button 48
  STILL ADJUST button 31, 48, 64
  STOP button 29, 63, 68
  SYNCHRO EDIT button 57
  TAPE SPEED (SP/EP) button 33, 55, 64, 67
  Tape Transport buttons 29, 47, 48, 68
  TIMER CLEAR button 41, 67
  TIMER REC (ON/OFF) button 9, 38, 45, 53, 54, 64, 67
  TRACKING AUTO/MANUAL button 31, 64
  TRACKING NORMAL/SLOW button 48, 69
  TV/VTR button 38, 54, 60, 64
  TV/VTR (ANTENNA TV/VTR) button 34, 67
  VCR Plus+ button 45, 68
  VIDEO INSERT button 58, 59, 64
  VOL +/- buttons 68
  WEEKLY button 38, 45, 68

C

Cable TV channel assignment 25
  Harmonic Related Carriers (HRC) 25
  Incremental Related Carriers (IRC) 25
Cassette
  Cassette indicator 28, 66
  Editing (see "Editing")
  Ejecting 28
  Indexing (see "Indexing")
  Inserting 28
  Playing back (see "Playback")
  Pausing a cassette 33, 34
  Protecting your cassette against erasure 28
  Recording/playback times 28
  Tape heads, cleaning 4
  Tape speeds (EP, LP, SP) 28, 55
Changing or cancelling timer settings (see "Timer Settings")
Channel
  Channel Line-Up Chart 43
  Channel number/input mode indicator 66
Cleaning
  tape heads (automatic) 5
  the VCR 4
Clock
  CLOCK DISPLAY 27
  CLOCK SET (see "Settings")
Connecting
  EAC66 U/V band separator/mixer 62
  External antenna connector 62
  F-type connector 61
CONTROL S INPUT jack (mini-type) 5, 57, 65
CONTROL S OUT terminal 57
Counter 30
  counter reading 30
  reset 30

D

Data Screen 30, 70
Disabling unwanted channels 23
Display window 49, 50, 51, 63, 66
  Indicators 66
DUAL MODE SHUTTLE ring (see "Variable Speed Playback")

E

Editing 55
  Audio insert 58
  EDIT indicator 55, 57, 66
  Editing from another VCR 55
  Editing function 55, 57
  From another VCR 59
  Insert editing 58
  SYNCHRO EDIT function 57
  Synchronized editing onto another VCR 57
  To another VCR 56
  Video insert 58
Ejecting a cassette (see "Cassette)
EP mode 28

F

FINE TUNING 24
  Fine-tuning indicator 24
Front panel 63
  Input connectors 63
Function Mode Display 63, 66

H

Help, on-screen "see On-Screen Help Messages")

I

Improving reception 55
Indexing cassettes
  described 49
  Erasing index signals 52
  Index Function 49
  Index Number indicator 51, 66
  Index scan 50
  Indexing tape contents 30
  Inserting index signals 49
  Locating index signals 51
  Manual index mark 49
  Marking index signals 49
  Playing back from an index signal 50
  Scan 50, 66
  Search 51
Inside of front panel 64
Input Connectors, front panel 63

Input Mode Indicator 66
INPUT SELECT 56
Inserting a cassette (see "Cassette")
Installation 6-16, 61, 62

L

LANGUAGE (Canadian versions only) 27
Linear time counter 30, 66
LP mode 28, 47

M

MAIN menu 20, 22, 26, 32, 36, 40, 44
Mixed hi-fi and normal track sound 32
Monitor sound
  Selecting monitor sound 31
Multi-channel TV sound (MTS) broadcasts 35

N

NORMAL AUDIO 27
NORM/CATV 9

O

ON-SCREEN HELP Messages 71
Owner's Record 2

P

Picture adjustment (see "Adjusting")
Playing a cassette 28
  Frame-by-frame 48
  Locked picture search 48
  Pausing 47
  Skip playback 48
  Slow motion 48
POWER ON/OFF indicator 60, 63
POWER ON/OFF switch 60, 63, 67, 69
Power interruption 69
Preparing the Remote Commander 17
Presetting (see "Setting")

R

Rear panel, 65
Recording
  Automatic (timer) 36
  Daily programs 38
  Externally-recorded tapes 31
  Quick-timer 53
  REC (Recording) indicator 66
  Recording SAP (Second Audio Program) Broadcasts 35
  Recording TV programs 33
  Recording with the TV off 35
  Stop 33
  Time (min/max) on cassettes 28
  Timer settings (see "Timer Settings")
  VCR Plus+ 43-46
  Weekly programs 38
Remote control (Commander) 17, 67
  Inserting batteries 17
  Setting the Command Mode 17, 18
  Setting the manufacturer's code number 18
Rewinding a cassette 29

S

Safety instructions 4
SAP broadcasts 35
Setting
  Presetting desired channels 23
  Presetting the active channels 22
  Channels (automatically) 22
  Clock 20
  Manufacturer's code number (remote) 18
  RF Unit switch 60
  Time (clock) and date 20
  Timer (for recording) 36
SET UP MENU 32
Set VCR Plus+ channels (see "VCR Plus+)
SHARPNESS SOFT/SHARP 29
Simple Cable
  Hookup 10
  VCR Plus+ setup 11
  VCR setup 11
Sound
  Sound adjustment (see "Adjusting")
  Sound mode (see "Monitor Sound")
SP mode 28
Specifications 72
Stereo broadcast 35
STEREO display 31
Stereo program/SAP indicator 35, 66
STILL ADJUST 69
SUB/R Display 31

T

Tape (see "Cassette")
Timer recording
  Buttons operable during timer recording 38
  Overlapping timer recordings 39
  TIMER REC (Recording) indicator 53, 66, 70
  Timer recording function 36
  Timer recording standby mode 38
Timer settings
  Cancelling 41
  Changing 41
  Checking 40
  VCR Plus+ timer settings (see "VCR Plus+")
Timer, setting
  TUNER PRESET 22
Tracking adjustment 31
Tracking Indicator 66
Troubleshooting 69
TUNER Indicator 53, 60
TV/VTR remote control selector 17, 67

U

Using the VCR before timer recording starts 42

V

Variable speed playback 47, 48
  DUAL MODE SHUTTLE ring 29, 34, 47, 48, 50, 52, 63, 68
  High-speed picture 47
  Picture search 47
VCR Plus+ 43
  Guide channel 44
  PlusCode field 45
  PlusCodes 43, 45
  Recording programs using VCR Plus+ 45
  Setup instructions 43
VHF/UHF IN/OUT connectors (F-type) 8-14, 65

W

Warning 2
Watching one TV program while recording another 35

Video Cassette Recorder

SLV-595HF/696HF

If you have any questions about this product, you may call:
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